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ASTRONOMICAL

AND

METEOROLOGICAL OBSERVATIONS

MADE AT

THE UNITED STATES NAVAL OBSERVATORY

DURING

THE YEAR 1864.

PUBLISHED BY AUTHORITY OF

THE HON. SECRETARY OF THE NAVY.

CAPTAIN J. M. GILLISS, U. S. N., SUPERINTENDENT.

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1866.

NOTE.

The Astronomical and Meteorological Observations of this volume were made under the direction of my predecessor, Captain Gilliss; the Introduction has been prepared by Mr. Ferguson, Assistant Astronomer, and the Appendix by Professor Newcomb.

C. H. DAVIS,
Rear-Admiral, Superintendent.

INDEX.

Page
NOTE ... 2
INTRODUCTION ... v
APPENDIX ... XXXIX
Observations with the Transit Instrument ... 1
  Mural Circle ... 105
  Prime Vertical Transit Instrument ... 193
  Equatorial ... 203
Observations of Occultations of Stars by the Moon ... 304
Mean Right Ascensions of Stars Observed with the Transit Instrument ... 305
Mean Declinations of Stars Observed with the Mural Circle ... 341
Right Ascensions and Declinations of the Sun, Moon, and Planets ... 363
Right Ascensions and Declinations of Stars, Asteroids, and Comets, Observed with the Equatorial ... 377
Mean Places for 1860.0 of Stars of Comparison used in Observations with the Equatorial ... 385
Right Ascension of Stars of Comparison determined by Transit Instrument ... 390
Constants for the Reduction of Stars ... 393
Catalogue of Stars Observed in 1864 ... 401

Meteorological Observations for 1864:

  Introduction ... 443
  Barometric Pressure ... 451
  Dry Thermometer ... 458
  Wet Thermometer ... 462
  Sun Thermometer ... 464
  Wind and Weather ... 468
  Mean Monthly and Annual Results ... 493
List of Publications presented to Library ... 499
Catalogue of the Library ... 505
Errata ... 524

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INTRODUCTION.

In August, 1842, a law was enacted authorizing the erection of a "Depot of Charts and Instruments," and the building was completed in September, 1844. In December of 1854 the honorable Secretary of the Navy directed that it should thereafter be styled the "United States Naval Observatory and Hydrographical Office."

The enacting law authorized the President of the United States to locate the building upon any public ground within the District of Columbia not otherwise in use; and the site assigned by him is the square originally designed in the plan of the city of Washington for a National University. It is on the north bank of the river Potomac, in the southwestern part of the city, and contains about seventeen acres, of which the highest point is one hundred feet above the river, the ground sloping thereto both on the south and on the west sides. It is enclosed on the east, south, and west sides by a brick wall, and on the remaining one by a picket fence.

The Observatory buildings consist of a central edifice fifty feet square, with wings to the east, west, and south. The central building is two stories and a basement high, with a parapet and balustrade of wood round the top, and is surmounted by a revolving dome twenty-three feet in diameter, which rests on a circular wall, built to a height of seven feet above the highest part of the roof. The east and west wings were each originally erected twenty-six feet six inches long, twenty-one feet wide, and eighteen feet high; but in the year 1848 the former was extended in length twenty-four feet, so as to connect it with the dwelling of the Superintendent, built directly east of the Observatory during the preceding year. The south wing is separated from the main building by a passage-way ten feet square. It is forty-one feet long, and of the same breadth and height as the others, having, in 1846, been extended twenty feet for the accommodation of a circle in the Prime Vertical. The width and height of the addition are the same as those of the old portion.

From observations, described in the previous volumes, particularly in that for 1863, the latitude of the Observatory has been taken at 38° 53′ 39″.25 north, and its longitude at 5h. 8m. 11s.0 west from Greenwich. These values have been used in all the reductions up to the present time. Subsequent observations, now in process of discussion, may augment each of these ordinates, but the change will not go beyond the first decimal of the second.

There are four rooms on each floor of the central building. One is occupied as a library room and office for the Superintendent; two are filled with charts, properly arranged, for distribution to ships of the navy; and the remainder, both on the first and second floors, are assigned to the assistants.

A clock, by Kessel, of Altona, and barometer, by Green, of New York, are placed in the office of the Superintendent. The clock, which is an excellent one, has not hitherto been used in connexion with any instrument, but merely as a standard with which the others have been compared. Drawings of the barometer will be found in the volume for 1862, and a description of the instrument in the introduction to the Meteorological Observations.

The Meridian Transit Instrument was made by Messrs. Ertel & Son, at Munich, with an object-glass of 5.3 inches aperture, and focal length of about 86 inches. The lens was refigured and repolished by Messrs. Alvan Clark & Sons in the autumn of 1862, with decided improvement both in achromatism and definition. Stars wholly invisible during daylight prior to the change can now be observed with great satisfaction; but, except on very rare occasions, its power under ordinary illumination does not extend beyond stars of the 10th magnitude. The axis of its telescope is 42 inches long between the bearing points of the pivots. There are finder circles of 8 inches diameter near the eye-end of the telescope, a striding level, and a reversing carriage of the ordinary construction. Until September 2d this instrument had been placed in the west room of the building, and was mounted on monoliths of granite split from the same block, and wholly isolated from the floors of the building. At the date last mentioned it was taken down, and with the piers removed to the place in the east room, until then occupied by the Meridian Circle of Ertel, the latter instrument having been previously removed to make room for it. These changes became necessary in order to prepare the west room for the reception of the Transit Circle of Pistor & Martins, then shortly expected to arrive. Up to September 2d there had been two clocks in the west room. The one generally in use was made for the old Naval Observatory by Parkinson & Frodsham, of London. It is supported against a massive granite pier, and has all necessary adjustments for verticality. It has Graham's dead-beat escapement with jewelled pallets; mercurial compensated pendulum; the usual means for altering the length of the rod and putting it in beat; a divided scale screwed to the back of the case, and an index attached to the base of the stirrup that supports the mercury cylinder. The extremity of the index is a delicate knife-edge in the plane of vibration of the pendulum. This knife-edge touches at each oscillation a globule of mercury that is supported on a slender bracket projecting from the centre of the divided scale. There are wires from the mercury globule to a galvanic battery, and a registering apparatus. Since changing its mode of support in 1862 from the side to the front of the pier, its rate has been more satisfactory, but there remain inequalities not accounted for by defective compensation, which are probably due to fluctuations in the strength of the galvanic current, the pendulum moving slower when the current is most active or strongest.

The other clock was designed by Dr. Locke, made by Messrs. Howard & Davis, and put up in 1850. It is secured to the west face of the pier originally erected for the Mural Circle, and is described in the volume for 1846.

The registering apparatus used with these clocks was of two kinds, viz: A Morse fillet of indefinite length unwound from a cylinder by clock-work. Two records are made upon the fillet by steel points, one showing the beats of the pendulum, and the other the instants of observation struck by the observer with the signal key. The other register is a brass cylinder two feet in length and eight inches in diameter, the motion of which is regulated by a centrifugal friction governor, so that it revolves once per minute. Its recording pen is attached to a carriage the rate of motion of which is controlled by a pendulum. Additional information respecting these instruments is given in connexion with the transit observations.

Both these clocks were taken down at the same time with the Transit Instrument, and the one made by Howard & Davis was changed to show mean time, and set up in the Chronometer room.

The Mural Circle, made by Troughton and Simms, is in the east wing, and is mounted upon the east face of a sandstone pier. It is five feet in diameter, and connected with the central portion by twelve radii that are strengthened on their backs by edge bars and united midway by a second concentric circle. To secure homogeneity, if possible, all the preceding portions constitute parts of the same cast. A band of gold and one of platina are inlaid upon the rim perpendicular to the plane of the circle. The former band is divided into spaces of 5′, and the latter to spaces of 1°, each of which is numbered. The minute reading is by means of six equidistant microscopes secured to the face of the pier, and which are illuminated through apertures in the same from a gas lamp placed to the west of it. The instrument has a conical axis three feet long. Under the eastern end of the latter there are friction rollers connected with rods that pass between

These rods converge towards the eye-end, where they are united in a handle of convenient length. By this arrangement it is believed that a better general agreement of results and greater accuracy have been obtained. The pier upon which the instrument is mounted is a wide monolith of which the central portion has been cut out for the accommodation of a reversing carriage of special construction.

The clock for this room was made by Charles Frodsham, and is mounted against a granite pier erected to the east of the Prime Vertical Transit Instrument. Instead of glass for the mercury of its pendulum cylinder, steel is used, the pendulum rod being screwed into a cap which covers the top of the cylinder. The pendulum index has a single knife-edge, and its divided scale supports a bracket with a mercury globule like the clock of the west wing. There being no recording apparatus for this room, and the clock-beat being faint, a tilt-hammer and battery were put up, to be used when high winds or other noise should make it advisable.

The extreme south room has been fitted up as the library, which, since the death of Professor Hubbard, has been in charge of Professor Harkness. It is the duty of the librarian to make a record of all books received, and to render proper acknowledgment for them.

The Equatorial Instrument under the dome is mounted upon a massive granite pedestal, which rests upon a hollow conical pier. The foundation for the pier is solid masonry 10½ feet thick, with a diameter of 15 feet. The instrument was made by Merz & Mahler; the object-glass having an aperture of 9.6 inches, and focal length of 14 feet 3 inches. Its hour and declination circles are respectively 16 and 21 inches in diameter. Its *finder* has an object-glass 2.6 inches in diameter and 32 inches focal length. The repeating filar micrometer, of Fraunhofer's pattern, is provided with both external divided scale and a comb at one side of the field, by which the complete revolutions may be read. The comb has a deeper interval at every fifth tooth, and every tooth represents one revolution. The instrument is perfectly equiposed in every position, and the telescope may be kept in motion by an endless screw that works in grooves of the hour circle, the time of revolution of which is regulated by a clock with centrifugal pendulum. A cylinder chronographic apparatus, with Bond's spring governor, connected with a battery and the clock of the south wing, is used for registering the instants of observation.

The object-glass being slightly under-corrected for color, and its performance not equalling others of like dimensions, in 1862 it was placed in the hands of Messrs. Clark & Sons to refigure. They increased the focal length about an inch, corrected the defective achromatism, and certainly improved the definition; but the flint disk is not a perfect one, and no amount of labor would ever make it an object-glass of the first class.

In the dome also is kept a comet-seeker by Merz & Mahler. Its object-glass has an aperture of 3.9 inches and focal length of 32 inches. The instrument is equatorially mounted on a stout shaft of brass, resting upon a tripod which has the ordinary adjusting screws, and the telescope is perfectly balanced in every position. It has hour and declination circles, each of five inches diameter, the divisions of which may be read to 4*s*. or 1′ by means of opposite verniers. The present object-glass was made by Messrs. Alvan Clark & Sons. Even during the brightest moonlight, the luminous boundaries of the annular nebulæ in Lyræ are admirably well shown by it. For greater convenience of the observer with the comet-seeker, the roof of the main building is covered with a level grated platform. There are substantial supports for instruments outside of the rotundo, from one or the other of which all parts of the heavens may be seen.

For the purpose of giving correct time to the city, a staff has been placed on top of the dome, and a large but light ball is hoisted thereon at ten minutes before mean noon of every day, except Sundays and the national holidays. After the ball is up, the pulley is connected with an electro-magnetic battery, and at the instant of noon the circuit is broken by the Assistant in the chronometer room.

A more detailed account of the buildings and instruments will be found in "*Report on the plan and construction of the Depot of Charts and Instruments, with a description of the ins'ruments, &c.*; Washington, 1845;" and in the volume of "*Astronomical Observations made during the year* 1845 *at the National Observatory:* Washington, 1846."

The general supervision of the Observatory is intrusted to the Bureau of Navigation, of which Rear-Admiral Charles H. Davis is chief. In 1864 its *personnel* remained as in the previous year, with the following exceptions: the appointment of Mr. Mark H. Doolittle as aid, which occurred April 20, and the resignation of Mr. Moses Springer, which took place in the following July. In December, Mr. Charles Thirion was employed as computer, under special authority from the Secretary of the Navy.

The department of Charts is in charge of Commander W. B. Whiting and Professor Pendleton; the former keeping the records and accounts, while to the latter is intrusted the duty of selecting and preparing for despatch the charts and publications necessary for ships at sea.

The department of Nautical Instruments was this year confided to Mr. John R. Eastman, until the 20th of October, when it passed into the hands of Mr. J. A. Rogers. The officer in charge of this department is assisted by Mr. John Clark, the machinist. His duties involve the examination and inspection of new instruments, or those recently purchased; the selection of the nautical instruments for vessels fitting for sea; a daily comparison of all chronometers belonging to the government and on deposit for trial; the dropping of the time ball at noon; and the accounts relating to the receipts and expenditures of instruments at the several naval stations. The Meteorological Journal is also under his care, and is daily examined and verified by him.

The routine of Astronomical observation has continued the same as in the previous years.

The Equatorial Instrument has remained in charge of Mr. James Ferguson, the Assistant Astronomer. Observations have been made throughout the year by him and Professor Asaph Hall, on alternate nights.

Professor M. Yarnall has directed the observations with the Meridian Transit, in which he has been assisted in the earlier part of the year, or until October, by Mr. Rogers, and subsequently, or to the end of the year, by Mr. Eastman.

The Mural Circle has been in charge of Professor Newcomb, assisted by Professor Harkness and Mr. Doolittle.

The Prime Vertical Transit has been used solely in observations of α Lyræ, the observers being Professors Newcomb and Harkness.

Mr. Thomas Harrison, as both secretary and disbursing officer, has charge of the official correspondence and accounts of the establishment.

The watchmen are Mr. Thomas Hayes and Mr. Dennis Horigan, who, in addition to their appropriate duties as wardens of the building and public properties, are also required to keep the Meteorological Journal of the Observatory, under supervision of the proper officer.

THE MERIDIAN TRANSIT INSTRUMENT.

This instrument was employed during the year as follows:

With rare exceptions from accidental causes, the Moon was observed at every visible transit, and, in connection with it, some or all of the Moon-culminating stars of the British Nautical Almanac. Observations of the Sun, and the planets Venus and Mercury, were omitted only on Sundays and exceptional cases like the preceding.

Mars, Jupiter, Saturn, Uranus, and Neptune, were frequently observed, and Ceres, Juno, Vesta, Hebe, Iris, Victoria, Eunomia, Psyche, Thetis, Melpomene, Fortuna, Euterpe, Amphitrite, and Fides, were observed one or more times. The other objects of observation were: Stars used for comparison by the Equatorial in this or former years; stars of Lacaille's Catalogue north of — 45°; stars whose declinations had been determined with the Mural Circle, either in its special work, or in the mural zones observed prior to 1850; the standard circumpolar and time stars of Dr. B. A. Gould, published in a report to the Superintendent of the United States Coast Survey, and a few others not properly to be classed in either of these enumerations.

The transit system consists of five groups or tallies of vertical threads, and in addition to these there are three vertical threads, movable by a micrometer screw, and two stationary horizontal ones. With the clamp end of the axis to the east, the tallies are named in the order of the transit of stars above the pole A, B, C, D, and E; and E, D, C, B, and A, when the clamp is to the west.

The tally over which an object has been observed is shown by inspection of the intervals between the transits.

The individual threads of each tally are designated by the numbers 1, 2, 3, 4, 5, for A, C, and E; and 1, 2, 3, for B and D respectively. One vertical thread, A_0, is outside of tally A, and another, E_6, is outside of E. Those two with A_5, B_1, C_3, D_3, and E_1, constitute a system over which transits with eye and ear may be conveniently observed.

From a mean of the observed transits of Polaris, δ Ursæ Minoris, and 51 Cephei, combined with careful micrometrical measurements, the equatorial intervals between each thread and the mean of B_1, B_2, B_3, C_1, C_2, C_3, C_4, C_5, D_1, D_2, D_3, were found to be as follows; the notation corresponding to clamp east:

EQUATORIAL INTERVALS.

Thread.	Interval.	Thread.	Interval.	Thread.	Interval.	Thread.	Interval.	Thread.	Interval.
	s.		s.		s.		s.		s.
A_1	+ 35.931			C_1	+ 2.230	D_1	— 11.834	E_1	— 30.192
A_2	34.552			C_2	1.273	D_2	13.014	E_2	32.623
A_3	33.347	B_1	+ 14.931	C_3	+ 0.056	D_3	— 15.039	E_3	33.845
A_4	32.179	B_2	12.998	C_4	— 1.141			E_4	35.134
A_5	+ 29.856	B_3	+ 11.720	C_5	— 2.180			E_5	— 36.444

Date.	2 Δ	2 Δ¹	c.	Date.	2 Δ	2 Δ¹	c.
h.	r.	r.	s.	h.	r.	r.	s.
January 12, 4	+ 0.06	− 0.08	+ 0.009	August 10, 19	+ 0.12	+ 0.52	− 0.207
February 4, 7	0.06	0.07	0.005	24, 22	+ 0.02	+ 0.06	0.063
25, 2	0.05	0.19	0.049	September 2, 20	− 0.10	− 0.09	0.051
March 17, 9	0.10	0.21	0.077	October 24, 0	+ 0.09	+ 0.31	0.168
April 6, 13	0.18	0.15	0.085	29, 2	− 0.50	− 0.28	0.168
28, 14	0.06	0.33	0.109	November 10, 2	0.48	− 0.17	0.204
May 17, 15	0.22	0.14	0.097	17, 19	− 0.46	+ 0.31	0.388
June 7, 16	0.12	0.29	0.117	21, 18	+ 0.03	− 0.12	− 0.020
July 2, 20	0.25	0.29	0.169	December 6, 3	0.00	− 0.27	+ 0.028
8, 17	0.23	0.29	0.161	27, 22	+ 0.50	+ 0.40	− 0.040
August 5, 21	+ 0.22	− 0.45	+ 0.221				

When observations to determine the value of c are tolerably accordant on successive dates, a mean is adopted for the whole period of such accordance; and where the differences are too great to permit inference that they may be due to errors of observation, the changes are assumed to have been uniformly progressive. The values used in the reductions are stated at the bottom of each page of the printed observations.

The distance which the line of collimation passes from the pole, and the point in which the meridian intersects the equator, are used instead of errors of level and azimuth. When the error of collimation is known, the first distance is directly obtained by observations of stars very near the pole, and may be represented by n. The second distance is determined by combining the value of n with the error of the level. Designating the latter by b, the latitude of the Observatory by φ, and representing this second distance by m, we obviously have

$$m = -n \tan \varphi + b \sec \varphi;$$

and the correction applicable to the observed transit of any star to reduce it to the meridian will be obtained by the formula

$$\text{Correction} = m + n \tan \delta + c \sec \delta,$$

in which δ represents the apparent declination of the star.

An approximate clock error having been first obtained from one or more equatorial stars, the value of n was determined generally by comparing the time of transit of Polaris, δ Ursæ Minoris, or λ Ursæ Minoris, with the right ascension given in the star list of Dr. B. A. Gould, before mentioned. There were a few occasions when the preceding named stars were not available, and it was necessary to select others from the same list; but, in all cases, both the name of the star and the resulting value are given in the following table showing the values of n during the year.

But it has been ascertained that the Transit Instrument is subject to a well-marked diurnal oscillation which changes the value of n from two to three seconds of arc, and sometimes even more. Its maximum and minimum take place not far from 3*h.* and 15*h.*, corresponding approximately to the diurnal epochs of maximum and minimum temperature, a fact indicating that the disturbance proceeds from movement of the piers under thermometric changes. From 15*h.* to 3*h.*, or during the day, the eastern pivot of the axis moves to the south and returns to or near to the same azimuth within the twelve following hours. Experiments are still in progress to determine definitely the law of change, but until this be positively known and the probable error in the value of n at any instant is less than that of observations of stars near the pole, the resulting right ascensions of all stars so situated must be vitiated. But as very few observations were made near the period of maximum, only two values of n have generally been adopted; one for the day and the other for night observations. Where the observations have extended through many hours of the night it became necessary to use values of n proportionate to the time from one standard azimuth star to another. The values used in the reductions are given in the foot-notes at the bottom of each page of the observations.

TABLE OF VALUES OF *n*.

Date.	Determining stars.	*n*.	Date.	Determining stars.	*n*.
1864.		s.	1864.		s.
Jan. 1	Polaris	− 0.073	March 2	δ Ursæ Minoris	+ 0.022
	Polaris, S. P.	+ .103		β Cephei	− .036
2	Polaris, S. P.	+ .228	3	Polaris	+ .033
6	ζ Ursæ Minoris, S. P.	− .046		δ Ursæ Minoris, S. P.	− .092
9	β Cephei	.000		λ Ursæ Minoris, S. P.	.100
	δ Ursæ Minoris, S. P.	− .008	5	λ Ursæ Minoris, S. P.	.220
11	β Cephei	+ .087		γ Cephei, S. P.	.207
	Polaris	− .017	6	β Cephei	.033
12	δ Ursæ Minoris, S. P.	− .079	7	Polaris	.031
14	β Cephei	+ .047	8	β Cephei	.000
	Polaris	.015	9	Polaris	.067
15	δ Ursæ Minoris	+ .074	11	β Cephei	.117
16	β Cephei	− .011	12	Polaris	.080
	δ Ursæ Minoris, S. P.	− .041		δ Ursæ Minoris, S. P.	.103
20	β Cephei	+ .066		λ Ursæ Minoris, S. P.	.214
	Polaris	.039		Polaris, S. P.,	.283
22	β Cephei	.098	15	δ Ursæ Minoris, S. P.	.155
	Polaris	.090		λ Ursæ Minoris, S. P.	.129
	δ Ursæ Minoris	.124		β Cephei	− .124
23	β Cephei	.055	17	β Cephei	+ .055
	δ Ursæ Minoris, S. P.	+ .065	18	Polaris	+ .019
	λ Ursæ Minoris, S. P.	− .005	21	γ Cephei, S. P.	− .114
25	Polaris	+ .157	23	Polaris	.064
	δ Ursæ Minoris	+ .100		Polaris, S. P.	.158
26	δ Ursæ Minoris, S. P.	− .081		β Cephei	− .044
27	Polaris	+ .324	24	Polaris	+ .060
	δ Ursæ Minoris, S. P.	.053		Polaris, S. P.	− .108
	λ Ursæ Minoris, S. P.	.031	April 6	Polaris, S. P.	.146
	δ Ursæ Minoris	.170	7	λ Ursæ Minoris, S. P.	.079
28	Polaris	.174		β Cephei, S. P.	− .179
	δ Ursæ Minoris, S. P.	+ .030	11	Polaris	+ .089
	λ Ursæ Minoris, S. P.	− .064	12	Polaris	.243
	Polaris, S. P.,	− .028	17	Polaris	+ .051
29	β Cephei	+ .175	18	Polaris	.000
	Polaris	.180	19	Polaris, S. P.	− .080
	δ Ursæ Minoris	.019	21	β Cephei, S. P.	.142
Feb. 3	δ Ursæ Minoris	.019		Polaris, S. P.	− .056
4	Polaris	.220		Polaris	+ .055
	δ Ursæ Minoris	+ .070	22	Polaris	.249
5	β Cephei	− .026	23	Polaris, S. P.	+ .075
	Polaris	+ .003	26	Polaris, S. P.	− .160
8	Polaris	− .024		δ Ursæ Minoris	.176
	δ Ursæ Minoris, S. P.	− .196		Polaris	.030
	δ Ursæ Minoris	+ .015	27	Polaris	.019
9	Polaris	− .028	28	Polaris, S. P.	.174
	δ Ursæ Minoris, S. P.	.166		β Cephei	− .263
10	Polaris	.005		Polaris	+ .066
	δ Ursæ Minoris, S. P.	.181	29	Polaris, S. P.	− .024
11	Polaris	.033	May 2	Polaris	+ 0.009
	λ Ursæ Minoris, S. P.	.179	3	Polaris	+ 0.044
12	Polaris	.011	4	Polaris, S. P.	− .072
	δ Ursæ Minoris, S. P.	.146		Polaris	+ .012
13	Polaris	.042	5	Polaris, S. P.	+ .005
16	Polaris	.091		Polaris	− .021
	δ Ursæ Minoris, S. P.	.184	6	Polaris, S. P.	− .017
17	δ Ursæ Minoris, S. P.	− .026		Polaris	+ .024
18	δ Ursæ Minoris, S. P.	+ .043	7	Polaris, S. P.	− .040
	λ Ursæ Minoris, S. P.	+ .006	16	Polaris, S. P.	.173
19	Polaris	− .019	17	Polaris, S. P.	.171
	λ Ursæ Minoris, S. P.	− .044	19	Polaris, S. P.	.113
20	Polaris	+ .109	20	Polaris, S. P.	.116
23	Polaris	− .039	21	Polaris, S. P.	.106
24	Polaris, S. P.,	.186	22	δ Ursæ Minoris	.277
25	Polaris, S. P.,	.125	24	λ Ursæ Minoris	.251
	δ Ursæ Minoris	.103	27	Polaris	.152
26	Polaris	.129	30	Polaris, S. P.	.048
	Polaris, S. P.,	.148		Polaris	.052
27	Polaris	.014	31	Polaris, S. P.	.047
	δ Ursæ Minoris, S. P.	.064	June 3	Polaris, S. P.	.011
March 2	Polaris	.012	7	Polaris, S. P.	.049
	λ Ursæ Minoris, S. P.	− 0.144	10	Polaris, S. P.	− .088

Date.	Determining stars.	*m*.	Date.	Determining stars.	*m*.
1864.		s.	1864.		s.
June 13	Polaris, S. P.	+ 0.010	Aug. 10	ε Ursæ Minoris	— 0.273
14	Polaris, S. P.	0.035		δ Ursæ Minoris	— .295
15	Polaris, S. P.	.069	11	Polaris, S. P.	+ .046
16	Polaris, S. P.	+ .050	12	Polaris, S. P.	+ .070
	δ Ursæ Minoris	— .169		δ Ursæ Minoris	— .095
17	Polaris, S. P.	+ .024		λ Ursæ Minoris	.089
20	51 Cephei, S. P.	— .191		Polaris	— .137
21	δ Ursæ Minoris	.206	13	Polaris, S. P.	+ .060
	λ Ursæ Minoris	.234	24	Polaris, S. P.	— .028
25	β Ursæ Minoris	.158	29	Polaris, S. P.	+ .025
	ε Ursæ Minoris	.163		δ Ursæ Minoris	— .127
	Polaris	.145		λ Ursæ Minoris	— .198
26	Polaris	.176	30	Polaris, S. P.	+ .003
27	Polaris	.376		λ Ursæ Minoris	— .149
28	ε Ursæ Minoris	.034	31	δ Ursæ Minoris	.104
	δ Ursæ Minoris	.237		λ Ursæ Minoris	— .197
29	δ Ursæ Minoris	.119	Sept. 1	Polaris, S. P.	+ .062
July 2	δ Ursæ Minoris	.254		λ Ursæ Minoris	— .083
4	δ Ursæ Minoris	.186	2	λ Ursæ Minoris	— .164
5	δ Ursæ Minoris	.129	Oct. 20	Polaris	+ .080
6	δ Ursæ Minoris	.136		Polaris, S. P.	.182
	λ Ursæ Minoris	.128	21	δ Ursæ Minoris	.156
8	δ Ursæ Minoris	.302	24	Polaris, S. P.	.118
9	δ Ursæ Minoris	.128	25	δ Ursæ Minoris	.155
11	δ Ursæ Minoris	.157		Polaris	.060
	λ Ursæ Minoris	.212	28	Polaris, S. P.	.533
13	β Ursæ Minoris	.235	29	δ Ursæ Minoris	.539
	δ Ursæ Minoris	.253		Polaris	+ .445
14	ε Ursæ Minoris	.145	Nov. 5	β Cephei	— .160
15	δ Ursæ Minoris	.260		Polaris	.100
16	δ Ursæ Minoris	.241	6	β Cephei	.128
18	λ Ursæ Minoris	.275	10	δ Ursæ Minoris	.005
20	β Cephei	.215		Polaris	.091
22	Polaris	.276		Polaris, S. P.	.068
23	Polaris	.233	12	Polaris	.182
25	ε Ursæ Minoris	.079	15	δ Ursæ Minoris, S. P.	.114
	δ Ursæ Minoris	.103		Polaris, S. P.	.049
29	Polaris, S. P.	.039	24	Polaris	.215
	δ Ursæ Minoris	.225		Polaris, S. P.	— .079
	λ Ursæ Minoris	.234	29	Polaris	+ .346
	Polaris	.294	Dec. 6	Polaris	+ .927
30	Polaris, S. P.	.095	12	Polaris	— .348
	Polaris	.366		δ Ursæ Minoris	.230
Aug. 1	δ Ursæ Minoris	.183	14	Polaris	.385
	Polaris	.316	20	Polaris	.222
2	Polaris	.358	22	δ Ursæ Minoris, S. P.	.039
3	δ Ursæ Minoris	.237		Polaris, S. P.	.165
5	Polaris, S. P.	.074	24	Polaris	— .251
9	Polaris	.301	29	β Ursæ Minoris	+ 0.421
10	Polaris, S. P.	— 0.211			

It will readily be seen that if *m* be neither large nor subject to great variation, it will be eliminated through the clock error, and therefore for astronomical purposes it may be entirely neglected. In effect, it actually was combined with the clock error in the reduction of observations.

The clock error was obtained from the corrected transits of one or more of the standard stars whose mean places for 1860.0 and proper motions are given in the following table. The apparent places of the same stars at the date of observation were obtained by application of the corrections for precession, &c., computed with constants of the American Ephemeris, including all the terms which can affect the second decimal of the seconds. The difference between the corrected transit and the computed apparent A. R. is a clock error for the instant of observation. The several results were then divided into groups, during which the clock rate might be supposed to have been uniform, and the means of the several groups were adopted as the errors at the corresponding mean of the times of transit. Usually there were but two groups for each day; one including the observations by day, and the other the observations by night.

The clock rate was obtained by two methods:

First. By equations of condition between the several stars of a group.

Second. By the change of error in the intervals between the groups, corrected for personal equation when necessary, and divided by the time elapsed.

The rate adopted for any group was a mean deduced from the changes of error between it and the preceding and following groups.

The clock made by Parkinson & Frodsham was used until September 2. Its rate has not been as uniform as is desirable. Although the diurnal polar azimuth variations changed the values of m and consequently the apparent clock errors, the rates fluctuated more than could be thus accounted for, and as the pendulum appeared to be over-compensated, an ounce and a half of mercury was removed from it on the 9th of December, 1863, after which its performance has been better, though still bad. After September the clock made by Charles Frodsham was used and has proved itself a better instrument.

The following list contains the names of all the stars used for time and azimuth, with their adopted mean right ascensions and proper motions for the fictitious épooh 1860.0—the instant when the sun's mean longitude was 280°. Of most of them both the mean places and the proper motions have been derived from the cited discussion by Dr. B. A. Gould, and the others were obtained from a comparison of the observations at Greenwich, Paris, and Washington.

MEAN R. A. FOR 1860.0, AND PROPER MOTIONS OF STARS USED IN THE REDUCTION OF OBSERVATIONS MADE WITH THE TRANSIT INSTRUMENT.

Name.	α	μ	Name.	α	μ
		s.			s.
α Andromedæ	0 1 9.43	+ 0.010	α Canis Majoris	6 38 58.61	— 0.041
γ Pegasi	0 6 1.79	+ .001	ε Canis Majoris	6 53 7.50	+ .001
12 Ceti	0 22 53.68	— .002	γ Canis Majoris	6 57 25.50	.005
β Ceti	0 36 33.60	+ .014	δ Geminorum	7 11 45.57	+ .000
ε Piscium	0 55 40.84	— .003	α² Geminorum	7 25 39.74	— .013
Polaris	1 8 2.32	+ .073	α Canis Minoris	7 31 58.35	.048
θ Ceti	1 17 1.57	— .005	β Geminorum	7 36 44.68	.047
η Piscium	1 23 59.73	+ .001	φ Geminorum	7 44 55.50	.000
ν Piscium	1 34 8.89	— .004	6 Cancri	7 54 54.89	.005
β Arietis	1 46 54.74	+ .006	ρ Argus	8 1 34.98	.005
α Ariotis	1 59 17.28	.014	η Cancri	8 24 36.52	.005
67 Ceti	2 10 0.11	.007	ε Hydræ	8 39 21.61	.012
ξ² Ceti	2 20 43.15	+ .001	κ Cancri	9 0 9.67	.003
γ Ceti	2 36 2.96	— .009	83 Cancri	9 11 9.80	.012
α Ceti	2 54 57.86	— .002	α Hydræ	9 20 42.46	.001
δ Arietis	3 3 37.77	+ .010	ε Leonis	9 37 53.91	.003
η Tauri	3 39 10.06	.001	μ Leonis	9 44 47.63	.019
γ Eridani	3 51 29.92	.004	π Leonis	9 52 48.80	.003
o¹ Eridani	4 5 2.03	.000	α Leonis	10 0 54.80	— .017
ε Tauri	4 20 26.71	.008	γ Leonis	10 12 14.94	+ .020
α Tauri	4 27 53.44	+ .004	ρ Leonis	10 25 26.26	.000
ι Aurigæ	4 47 52.86	— .001	l Leonis	10 41 53.74	— .001
11 Orionis	4 56 34.33	+ .002	χ Leonis	10 57 47.66	— .024
ε Leporis	4 59 32.16	.000	δ Leonis	11 6 39.52	+ .012
β Orionis	5 7 48.65	.000	δ Crateris	11 12 20.63	— .008
β Tauri	5 17 26.64	.002	τ Leonis	11 20 44.23	+ .002
δ Orionis	5 24 51.33	.001	υ Leonis	11 29 46.89	.000
α Leporis	5 26 33.42	+ .002	β Leonis	11 41 54.98	— .034
ε Orionis	5 29 6.64	— .001	o Virginis	11 58 4.66	— .013
α Columbæ	5 34 34.88	— .003	ε Corvi	12 2 55.77	+ .001
α Orionis	5 47 35.60	+ .002	η Virginis	12 12 44.66	— .004
ν Orionis	5 59 34.76	.001	β Corvi	12 27 2.31	.004
μ Geminorum	6 14 29.43	.006	α Canum Venaticorum	12 49 28.42	.020
γ Geminorum	6 29 37.42	+ .004	θ Virginis	13 2 42.28	.002
			α Virginis	13 17 49.31	— 0.002

Name.	μ	a	Name.	μ	a
		s.			s.
ζ Virginis	13 27 33.71	— 0.019	ζ Aquilæ	18 58 58.49	— 0.003
η Bootis	13 48 1.14	— .003	ω Aquilæ	19 11 14.65	+ .003
τ Virginis	13 54 31.40	+ .005	δ Aquilæ	19 18 26.32	.015
α Bootis	14 9 16.60	— .079	κ Aquilæ	19 29 21.46	+ .000
ρ Bootis	14 25 47.72	— .008	γ Aquilæ	19 39 36.20	+ .001
ε Bootis	14 38 52.38	.003	α Aquilæ	19 43 57.10	.036
α Libræ	14 43 8.34	.008	β Aquilæ	19 48 26.15	.002
ψ Bootis	14 58 26.85	.010	τ Aquilæ	19 57 17.95	+ .004
β Libræ	15 9 28.64	.007	λ Ursæ Minoris	20 3 53.40	— .071
μ Bootis	15 19 12.15	— .010	$α^2$ Capricorni	20 10 17.03	+ .003
α Coronæ Borealis	15 28 45.66	+ .010	ρ Capricorni	20 20 52.26	— .006
α Serpentis	15 37 22.44	.009	ε Delphini	20 26 31.43	— .001
ε Serpentis	15 43 50.38	+ .009	α Cygni	20 36 39.58	.000
δ Scorpii	15 52 3.64	— .001	μ Aquarii	20 45 5.97	+ .001
β Scorpii	15 57 18.07	.002	ζ Cygni	21 6 58.73	— .001
δ Ophiuchi	16 7 0.69	— .006	1 Pegasi	21 15 36.81	+ .009
α Scorpii	16 20 49.73	.000	β Aquarii	21 24 11.18	.002
ζ Ophiuchi	16 29 27.18	+ .001	ξ Aquarii	21 30 17.74	.006
ζ Herculis	16 36 0.56	— .034	ε Pegasi	21 37 18.60	.003
κ Ophiuchi	16 51 2.56	— .022	μ Capricorni	21 45 39.55	.023
ε Ursæ Minoris	17 0 26.89	+ .015	α Aquarii	21 58 35.32	.000
α Herculis	17 8 15.89	— .001	θ Aquarii	22 9 26.63	.007
θ Ophiuchi	17 13 24.84	— .003	π Aquarii	22 18 7.59	.000
b Ophiuchi	17 17 49.36	.000	η Aquarii	22 28 9.68	.004
α Ophiuchi	17 28 26.19	+ .007	ζ Pegasi	22 34 28.79	+ .003
μ Herculis	17 40 58.84	— .025	λ Aquarii	22 45 18.48	— .003
$γ^3$ Sagittarii	17 56 48.94	+ .005	α Piscis Australis	22 49 54.42	+ .024
μ Sagittarii	18 5 23.48	+ .001	α Pegasi	22 57 47.34	.004
η Serpentis	18 14 3.95	— .041	γ Piscium	23 9 54.48	.047
δ Ursæ Minoris	18 17 30.20	+ .029	κ Piscium	23 19 45.34	.005
1 Aquilæ	18 27 35.26	— .003	B. A. C. 8213	23 27 49.30	.048
α Lyræ	18 32 11.90	+ .018	ι Piscium	23 32 45.06	.026
β Lyræ	18 44 54.67	.000	δ Sculptoris	23 41 37.69	.009
σ Sagittarii	18 46 34.98	0.000	ω Piscium	23 52 7.43	+ 0.010

It becoming necessary to remove the instrument to the east room, in order to make way for the new Transit Circle, this was done during the month of September, and on the 20th of October observations were recommenced, and November 12th and 17th the following readings of the level were obtained at different pointings of the instrument, sufficient time being allowed for the bulb to settle after each change of reading of the finder circle, a slight motion having been given to the bulb to insure an independent reading:

November 12.—Facing south.			November 17.—Facing north.			November 17.—Facing north, level reversed.				
Reading	W.	E.	Reading	W.	E.	Reading.	W.	E.	W.	E.
°			°			°				
5	8.5	13.7	170	11.2	24.5	170	28.1	8.9		
10	8.5	13.7	165	11.3	24.5	165	28.1	8.9		
15	8.8	13.4	160	11.5	24.4	160	28.1	8.9		
20	9.0	13.2	155	11.6	24.5	155	28.1	8.9		
25	9.0	13.2	150	11.6	24.4	150	28.1	8.9		
30	9.0	13.1	145	11.7	24.5	145	28.0	9.0		
35	9.0	13.2	140	11.6	24.6	140	28.0	9.0		
40	9.0	13.2	135	11.3	24.9	135	28.1	8.9		
45	9.0	13.2	130	11.3	25.0	130	28.2	8.8		
50	9.0	13.2	125	11.2	25.1	125	28.2	8.8		
55	9.0	13.3	120	11.1	25.1	120	28.2	8.8		
60	9.0	13.3	115	11.2	25.1	115	28.2	8.8	28.2	8.7
65	8.9	13.4	110	11.2	25.1	110	28.2	8.7	28.2	8.7
70	8.3	13.9	105	11.1	25.2	105	28.2	8.7	28.2	8.7
75	8.4	13.9	100	11.1	25.3	100	28.2	8.7	29.8	7.1
80	8.4	13.9	95	11.1	25.4	95	28.2	8.7	30.2	6.7
85	8.3	14.0	90	11.1	25.4	90	. .	. .	30.2	6.7
90	8.4	14.0	85	11.1	25.5	85	. .	. .	30.2	6.7
95	8.4	14.0	80	11.1	25.5	80	. .	. .	30.1	6.7
100	8.5	14.0	75	11.2	25.6	75	. .	. .	30.2	6.6
105	8.6	13.9								

From which it may be inferred that the pivots are very nearly if not quite symmetrical in form.

For a new value of p careful readings were made, as follows:

October 22, Z. D. 105°.				November 17, Z. D. 90°.				November 21, Z. D. 45°.				November 22, Z. D. 60°.			
Clamp east.		Clamp west.		Clamp east.		Clamp west.		Clamp east.		Clamp west.		Clamp east.		Clamp west.	
W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.
12.5	38.0	25.0	28.4	10.7	26.3	28.3	8.4	24.8	25.5	20.2	21.8	23.6	21.6	25.5	20.6
33.0	17.0	24.0	29.5	30.3	6.7	12.2	24.5	25.0	25.2	20.2	21.8	23.3	21.8	25.6	20.7
12.8	39.0	25.0	28.2	11.5	25.5	28.3	8.3	25.1	25.0	20.2	21.9	23.3	21.8	25.6	20.7
34.5	17.0	24.8	29.0	28.8	8.1	11.1	25.4	24.7	25.0	20.3	21.7	23.4	21.8	25.6	20.7
13.2	39.1	25.8	28.0	11.3	25.5	28.3	8.3	27.5	22.2	24.0	17.8	23.2	22.2	23.7	20.7
33.1	17.8	24.8	29.0	30.1	6.7	12.0	24.5	27.6	22.1	24.2	17.7	23.5	22.0	23.7	22.7
. .	. .	. .	. .	11.2	25.5	28.2	8.1	27.6	22.1	24.0	17.8	23.8	22.0	23.9	22.5
. .	. .	. .	. .	28.8	8.0	11.7	24.7	27.6	22.0	24.0	17.9	23.8	22.0	23.8	22.7

November 22, Z. D. 75°.				November 26, Z. D. 105°.				November 26, Z. D. 120°.				November 28, Z. D. 130°.			
Clamp east.		Clamp west.		Clamp east.		Clamp west.		Clamp east.		Clamp west.		Clamp east.		Clamp west.	
W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.
26.2	20.9	26.2	20.5	24.7	33.0	24.5	34.4	23.5	34.5	24.8	33.9	26.5	32.0	27.8	30.4
26.1	20.8	26.1	20.6	24.5	33.0	24.6	34.4	23.6	34.4	24.5	34.1	26.7	31.8	28.2	30.0
25.7	21.3	26.1	20.5	24.2	33.3	24.6	34.4	23.6	34.4	24.2	34.3	26.8	31.7	27.7	30.4
25.7	21.3	26.2	20.6	24.0	33.6	24.5	34.4	23.6	34.3	24.7	33.8	26.8	31.7	27.7	30.4
23.0	23.8	23.1	23.7	27.8	29.8	31.2	27.8	28.2	29.7	30.6	27.9	35.2	23.2	35.2	22.8
23.0	23.9	23.1	23.7	27.7	29.8	31.2	27.7	28.3	29.6	30.6	27.8	35.1	23.2	35.4	22.6
22.5	24.3	23.1	23.7	27.8	29.8	31.1	27.7	28.2	29.5	30.6	27.8	35.0	23.2	35.3	22.6
22.5	24.2	23.1	23.7	27.8	29.8	31.1	27.6	28.1	29.7	30.2	28.2	34.8	23.4	35.2	22.7

November 28, Z. D. 100°.				December 3, Z. D. 50°.				December 3, Z. D. 70°.				December 3, Z. D. 90°.			
Clamp east.		Clamp west.		Clamp east.		Clamp west.		Clamp east.		Clamp west.		Clamp east.		Clamp west.	
W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.	W.	E.
26.9	30.8	27.0	30.7	31.2	24.0	31.0	23.4	29.9	24.0	31.0	23.0	30.0	23.6	30.0	23.3
26.9	30.8	27.1	30.6	31.2	24.0	31.1	23.3	29.9	24.0	31.0	23.0	30.1	23.4	30.0	23.3
26.9	30.7	27.1	30.5	31.2	24.0	30.8	23.6	29.8	24.1	30.9	23.0	30.0	23.4	30.2	23.1
27.0	30.7	27.1	30.6	31.3	23.8	30.7	23.6	29.8	24.0	30.9	23.0	30.0	23.4	30.1	23.2
33.6	24.0	35.5	22.0	34.5	20.5	34.0	20.1	33.8	20.0	34.3	19.7	32.9	20.5	34.6	18.6
33.6	23.9	35.5	22.0	34.7	20.3	34.2	19.9	33.8	19.9	34.3	19.7	33.0	20.3	34.3	18.8
33.5	24.0	35.3	22.1	34.7	20.2	34.1	20.0	33.7	19.8	34.3	19.6	32.9	20.4	34.3	18.8
33.7	23.8	35.2	22.2	34.3	20.5	34.1	19.9	33.7	19.7	34.3	19.6	32.9	20.4	34.5	18.6

December 3, Z. D. 60°.			
Clamp east.		Clamp west.	
W.	E.	W.	E.
29.7	23.4	30.1	23.0
29.7	23.4	30.0	23.1
29.7	23.4	30.0	23.0
29.7	23.4	30.0	23.0
33.5	19.6	34.7	18.3
33.7	19.3	34.7	18.3
33.7	19.2	34.5	18.5
33.6	19.3	34.3	18.7

The first readings are Z. D. north, and the second Z. D. south.

These readings, using the value of a level division = $0^s.051$, give the following values of b, b^1, and p, where b represents the difference of level clamp east, b^1 the same quantity clamp west, and p the excess of the clamp pivot.

VALUE OF p.

Date.	b.	b^1.	$b - b^1$.	p.	Z. D.
	s.	s.	s.	s.	°
October 22	— 0.1309	— 0.0965	— 0.0344	+ 0.0086	70
November 17	+ 0.0969	+ 0.0900	+ 0.0069	— 0.0017	90
21	0.0650	0.0596	+ 0.0054	— 0.0014	45
22	0.0405	0.0768	— 0.0363	+ 0.0091	60
	+ 0.0453	+ 0.0638	0.0185	0.0046	75
26	— 0.1390	— 0.0714	0.0676	0.0169	105
	— 0.1562	— 0.0880	0.0682	0.0170	120
28	+ 0.0851	+ 0.1294	0.0443	0.0111	130
	0.0746	0.1246	0.0500	0.0125	100
December 3	0.2735	0.2748	0.0013	0.0003	50
	0.2518	0.2882	0.0364	0.0091	70
	0.2435	0.2878	0.0443	0.0111	90
	+ 0.2623	+ 0.2945	— 0.0322	+ 0.0080	60

The means of which give $p = + 0s.008$, which was used in the reduction of the observations made after the removal of the instrument.

The following values were obtained for the value of one division of the spirit level:

Date.	Centre of bulb.	Circle read'g.	Value of d.	Date.	Centre of bulb.	Circle read'g	Value of d.
	d.	"	s.		d.	"	s.
November 12	+ 38.70	9.35	0.0542	November 12	— 16.95	27.62	0.0539
	28.25	19.65			— 5.70	37.70	
	+ 17.20	29.63			+ 7.92	47.57	
	— 3.98	39.68			+ 17.95	56.28	
	8.98	49.02					
	18.92	59.47		December 6	+ 23.68	24.32	0.0478
	— 33.52	69.08			+ 9.72	34.35	
					— 4.98	44.50	
					— 17.70	54.17	
November 12	+ 34.70	16.73	0.0490				
	21.38	26.97		December 7	+ 22.10	14.92	0.0515
	+ 8.02	37.15			+ 8.48	24.52	
	— 6.15	46.32			— 4.95	35.65	
	— 18.62	56.38			— 17.55	45.35	

The means of which give, for a division of the level, 0s.051.

PERSONAL EQUATION.

To eliminate, as far as possible, the influence upon resulting Right Ascensions which might arise from one observer using clock errors that had been determined from observations of another, on several occasions each observed a group of clock stars within the period embraced by observations of the other. The following are the results; Y. and R. indicating Prof. Yarnall and Mr. Joseph A. Rogers, respectively:

Date.	Star.	Y.—R.	Date.	Star.	Y.—R.
		s.			s.
Mar. 23	α Tauri	— 0.02	May 4	β Orionis	+ 0.08
April 17	α Pegasi	0.00		δ Orionis	0.06
22	δ Orionis	+ 0.03	6	α Arietis	0.06
	α Orionis	0.01		α Tauri	0.03
	ε Orionis	0.04		β Orionis	0.11
May 4	α Arietis	0.15		ε Orionis	0.12
	α Tauri	+ 0.05		α Orionis	+ 0.08

Or, observations made by Mr. Rogers under the above circumstances require to be diminished by 0s.06.

EXPLANATION OF THE PRINTED OBSERVATIONS.

Column 1 contains the date and initial letter of the observer's name; the day commencing at apparent noon.

Column 2 contains the name of the object, or its approximate declination, when it is not contained in catalogues.

The following system for nomenclature was adopted:

1. By the constellation and Bayer letter there given.
2. By the constellation and Flamsteed number there given.
3. By their number in the catalogue.

Exceptions are made in the case of Polaris, λ Ursæ Minoris, and some of Dr. B. A. Gould's list of standard circumpolar stars, to which the number of Hevelius is prefixed.

Other stars found in published catalogues are designated by the name and number in the catalogue.

Column 3 contains the number for reference.

The following abbreviations occur:

O. Arg. N., Oeltzen's Catalogue from Argelander's Northern Zones.

O. Arg. S., Oeltzen's Catalogue from Argelander's Southern Zones.

B. Z., Bessel's Zones.

Those which have been used as comparison stars in observations with the Equatorial, but which cannot be recognized in published catalogues, have the same designation as in the equatorial observations of the object compared with them, or a number followed by the letter W.

Columns 4–14, inclusive, contain the seconds and tenths of the transits over the several threads as noted by the observer at the time, or as subsequently read from the chronographic record. But as there are twenty-one threads, over each of which observations were taken at different times, the numbers over the column may not represent the thread at which a star was observed, and this datum can become known only by comparing the observation with the equatorial intervals.

The transits of stars below the pole are recorded over the several threads from right to left, so that the same numbers correspond to the same threads that they would refer to if the transit occurred above the pole.

Column 15 contains the minutes, seconds, and decimals of a second, obtained by taking the mean of the preceding times of transit over the threads observed

Column 16 contains the sum of the corrections necessary to reduce the numbers of the preceding column to the clock time at which the object crossed the great circle passing through the pole and the point in which the line of collimation intersects the equator. It consists of two parts:

1. For broken observations of stars from the mean given in column 16 to the mean of the threads B_1, B_2, B_3, C_1, C_2, C_3, C_4, C_5, D_1, D_2, D_3, by the formula,

$$R = \text{Equat. int.} \times \sec \delta;$$

or if the star was so near to the pole that the difference between the sine and arc of the reduction was sensible,

$$\text{Sin } R = \sin \text{ Equat. int.} \times \sec \delta.$$

In case of the Moon, the reduction was computed by Prof. Airy's formula, published in the Greenwich Observations:

$$\frac{3600+I}{3600} \times \frac{\text{Sin } ☽\text{'s Geo. Z. D.}}{\text{Sin } ☽\text{'s App. Z. D.}} \text{Sec } ☽\text{'s Geo. Z. D.},$$

in which I represents in seconds of time the Moon's increase of right ascension in one hour of longitude as given in the Nautical Almanac. The factor $\frac{\text{Sin } ☽\text{'s Geo. Z. D.}}{\text{Sin } ☽\text{'s App. Z. D.}}$ has been tabulated for the latitude of the Observatory as a function of the parallax and geocentric declination.

In case of the Sun and Planets, the correction was computed in the same manner as for stars, and increased by their respective motions in right ascension during the intervals expressed by the correction.

2. The correction for collimation and polar azimuth computed by the formula

$$\text{Correction} = n \tan \delta + c \sec \delta;$$

of which the method of obtaining the factors n and c has already been stated. This correction combined with m was usually so small that further modification for the motion and parallax of the Moon in reducing observations of that body was rarely necessary.

Column 17 contains the correction for clock error obtained as stated, and brought forward to the instant of observation by the rate. The clock error used is that obtained by the observer whose initial is given in column 1.

Column 18 contains the apparent right ascension of the object or part of the object actually observed, obtained from the sum of the three columns immediately preceding. When only one limb of the Sun or a planet was observed, the sidereal time of the transit of the semidiameter over the meridian, as given in the American Ephemeris and Nautical Almanac, will be found in the following column. From 273 transits of both limbs of the Sun, observed during the years 1861, 1862, and 1863, and compared with the sidereal times of the semidiameter passing the meridian as given in the American Ephemeris, there results $C - O = +0.06s.$, a correction applied to the computed value in the few cases when one limb only was observed.

Column 19 contains the corrections applicable to the preceding column to reduce the observations of the stars to their mean places $1860.0d.4$, or the instant when the Sun's mean longitude was 280°. These were computed from "constants for the reduction of fixed stars" given in this volume, and in the preparation of which the coefficients are the same as those used in the American Ephemeris and Nautical Almanac. The corrections include no proper motions except those used in the list of time and azimuth stars published in this introduction.

There will be found at the foot of the page the adopted clock and instrumental corrections, observations of the reflected image of the middle wire, position of the clamp E or W, and such notes as the observations called for. The notes are of two classes, viz: Those made at the time of the observation, and those which result from subsequent examination of the observation. The former are printed in Roman and the latter in italic letters.

A comparison is given, pp. 365 to 377, of the observations of the Sun, Moon, and Planets, with their tabular places in the American Ephemeris and Nautical Almanac for 1864.

The several observations of each fixed star reduced to their mean place for $1860 + 0d.4$, are collected in pages 307 to 341. As a general but not always imperative rule, the results for fundamental polar or clock stars have been excluded when any change in the tabulated places of those stars would affect the resulting right ascension by an amount equal to one-third of such change.

The magnitude of each star, when estimated by the observer at the time of observation, is given in the same tables. Usually, estimates were made from the appearance of the star in the telescope; but with the brighter stars, the conclusion thus arrived at was occasionally combined with unassisted eye estimate made at the same transit. When doubtful the observer marked his estimate with a colon.

Observations recorded as doubtful and of less weight than usual are indicated by colons, but these marks are never annexed in consequence of accordance or discordance of results. When a result is discordant, reference is had to the original record, and the observation is retained or rejected as is warranted by the evidence there found. All rejected results are enclosed in parentheses.

Pages 403 to 442 contain a catalogue of the stars observed during the year, reduced to the fictitious epoch 1860.0.

The observations have been reduced by the officers attached to the instrument, assisted by Professor Eastman, who compiled the catalogue, and Mr. Charles Thirion, "Aid," who assisted as required in computing, in copying, and comparing anonymous stars with star catalogues, and preparing a list of observations of the Sun, Moon, and Planets.

THE MURAL CIRCLE.

During the year 1864 the Mural Circle was employed in observations of the Sun, Moon, and larger planets; of all the asteroids which could be seen with it when they passed the meridian between 11*h*. and 13*h*.; of circumpolar stars suitable for determining the latitude of the Observatory; of Nautical Almanac stars; of stars for reduction of the zone observations with the Meridian Circle previous to 1850; and of comparison stars used by the Equatorial.

MICROMETER AND TRANSIT WIRES.

The diaphragm used in 1863 remained in use till May 22, 1864. On that day the spider lines were found to be loose, and badly bent, by moisture. They were removed, and new wires put into the same scores. October 6th they had to be again changed for the same reason. No change was made in the adopted intervals between the middle wire and each of the other twelve, which are as follows:

Wire	I.	II.	III.	IV.	1.	2.	V.	4.	5.	VI.	VII.	VIII.	IX.
	s.	*s.*	*s.*	*s.*	*s.*	*s.*	*s.*	*s.*	*s.*	*s.*	*s.*	*s.*	*s.*
Interval	+53.6	+40.6	+28.8	+15.7	+ 3.3	+ 1.6	0.0	− 1.7	− 3.5	−16.3	−28.8	−40.8	−52.9

The interval of the two horizontal wires has not been wanted for the reductions, all observations being referred to the imaginary wire equidistant between the two. It was approximately 8″.5 before October 6th, and 7″.9 thereafter.

INEQUALITY OF THE MICROMETER-SCREW.

Until March 2 the correction applied for inequality was that determined in 1863, and given on page xxvi of the Introduction to the Washington Observations for that year. Suspicions arising that this correction was no longer applicable, the inequality was redetermined in the following manner:

The screw being placed at an integral number of revolutions (say 30*r*.0:) the circle and telescope were turned gently until the northern horizontal thread, as seen directly, was by estimation accurately as far north of its image seen in a basin of mercury as is the interval between the two threads. The two threads and their images thus formed three equal spaces. The correctness of this estimation was tested by turning the micrometer backward to destroy the equality of the intervals and restoring them by motion of its screw in the opposite direction. The reading of the divided head was then noted. The micrometer-screw was then turned until the horizontal threads and their images formed a like series of horizontal intervals south of the threads, when the divided head was again read. The difference between the two readings is equal to twice the distance of the threads in turns of the micrometer-screw value. Five similar measurements were made and their mean value accepted.

The micrometer-screw was then successively placed at 30.1*rev*., 30.2*rev*., 30.3*rev*., &c., &c., and measurements precisely similar to the preceding were repeated for each tenth of a revolution; the precaution being taken that all the measures of any one revolution were made by the same observer and on the same evening. In this way the following readings were made during the month of April, 1864. The first column gives the micrometer reading when the wires were south of their images, the second when they were north, the third the difference of the first two, or the measured double interval of the wires, and the fourth the difference between each measure, and the mean of the series, in units of the third place of decimals.

Observer, N.			
r.	r.		
26.008	.592	.584	+ 5
.109	.704	.595	16
.202	.797	.595	15
.302	.897	.595	16
.401	.989	.588	9
.501	.083	.582	+ 2
.607	.176	.569	—10
.691	.253	.562	17
.805	.364	.559	21
26.905	.469	.564	—15
Mean.	. .	.5793	0

April 20. Observer, N.			
r.	r.		
26.999	.580	.581	— 1
27.099	.698	.599	+17
.195	.800	.605	23
.299	.900	.601	19
.405	.994	.589	8
.511	.095	.584	+ 2
.604	.177	.573	— 9
.700	.257	.557	24
.796	.355	.559	23
27.897	.468	.571	—11
Mean.	. .	.5818	0

April 12. Observer, Ha.			
r.	r.		
28.018	.567	.549	— 9
.109	.684	.575	+17
.199	.775	.576	18
.308	.877	.569	11
.396	.963	.567	9
.508	.071	.563	+ 5
.598	.154	.556	— 2
.711	.246	.535	23
.798	.346	.548	10
28.908	.447	.539	—19
Mean.	. .	.5577	0

April 1. Observer, N.			
r.	r.		
29.019	.602	.583	+ 3
.107	.703	.596	16
.193	.787	.594	14
.307	.893	.586	6
.399	.985	.586	6
.506	.088	.582	+ 2
.598	.170	.572	— 8
.692	.256	.564	16
.808	.373	.565	15
29.895	.469	.574	— 6
Mean.	. .	.5802	0

April 14. Observer, Ha.			
r.	r.		
30.007	.562	.555	+ 3
.111	.670	.559	7
.221	.788	.567	15
.303	.869	.566	14
.402	.962	.560	8
.511	.066	.555	+ 3
.618	.168	.550	— 2
.706	.239	.533	19
.800	.331	.531	21
30.903	.446	.543	— 9
Mean	. .	.5519	0

April 8. Observer, N.			
r.	r.		
31.002	.578	.576	+ 7
.099	.681	.582	14
.204	.791	.587	18
.304	.878	.574	6
.413	.990	.577	8
.505	.079	.574	+ 5
.603	.157	.554	—14
.708	.253	.545	24
.806	.361	.555	13
31.908	.470	.562	— 7
Mean.	. .	.5686	0

April 22. Observer, N.			
r.	r.		
32.006	.586	.580	+ 5
.100	.686	.586	11
.197	.786	.589	15
.299	.886	.587	12
.404	.986	.582	7
.504	.081	.577	+ 3
.595	.159	.564	—11
.692	.245	.553	22
.795	.355	.560	14
32.893	.462	.569	— 6
Mean.	. .	.5747	0

Supposing each reading to require a correction of the form

$$\alpha \cos u + \beta \sin u,$$

u being the micrometer reading expressed in arc, the values of α and β given by the seven separate determinations are as follows:

rev.	α	β
26	— .0020	+ .0093
27	.0024	.0109
28	.0030	.0080
29	.0001	.0071
30	— .0021	.0081
31	+ .0003	.0086
32	— .0007	+ .0080
Mean .	— .0014	+ .0086

The required correction is therefore

$$-\,0r.0014 \cos u + 0r.0086 \sin u.$$

The correction was again determined in the same way, during the month of June, with the following result:

$$+\,0r.0016 \cos u + 0r.0072 \sin u.$$

Again, between November 28 and December 2, the result was

$$-\,0r.0018 \cos u + 0r.0025 \sin u.$$

The inequality is, therefore, continually diminishing. The extent and rapidity of the diminution may be seen by reducing each of the four determinations to a single term.

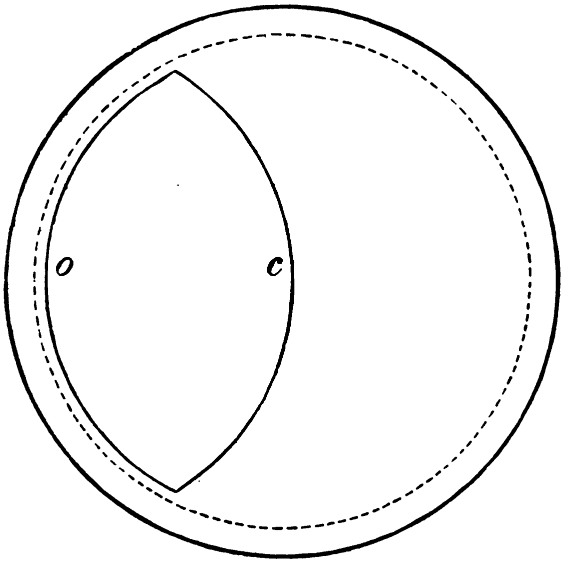
			r.
1863.	April - - -	Cor. =	0.0129 sin $(u + 26^\circ\ 46'.)$
1864.	April - - -		0.0087 sin $(u - 9^\circ\ 16'.)$
1864.	June - - -		0.0074 sin $(u + 12^\circ\ 35'.)$
1864.	December - -		0.0031 sin $(u - 36^\circ.)$

INSTRUMENTAL ADJUSTMENTS.

The principal changes in the adjustment of the instrument, accidental or designed, were as follows:

1864, January 4: The telescope was moved forward 90° on the circle, so that the zenith point reading was now 90° instead of 0° as heretofore.

The focal adjustment of the instrument was tested by means of a cap made for the purpose, the form of which is shown by the following diagram:



The dotted circle shows the limit of the pencil of rays admitted by the object-glass. C O is an eccentrically placed opening in the cap. It will be perceived that, when the cap is on, a symmetrically formed pencil of rays, bounded on both sides by the aperture of the cap, is admitted through one side of the object-glass. The pencil is made symmetrical from its origin, in order to destroy the effect of diffraction.

The cap being put on the telescope with the aperture to the south, (or north,) the telescope was pointed toward the nadir, and the micrometer reading for coincidence of the mean wire with its image was found as in observing the nadir point. The cap was then turned round 180°, and the reading for coincidence again found. When the focus is correctly adjusted these readings agree.

The adjustment being thus tested it was found, on the evening of January 4, that the wires were between the object-glass and the true focus, being about 0.03 in. within the latter. This mal-adjustment was corrected.

May 23–26. It was found that the true focus was now inside of the wires, and the eye-piece had to be returned to the position in which it was at the beginning of the year, in order that the focal adjustment should be correct. This change at first caused considerable embarrassment; but when the cold weather set in, the true focus was once more found to be formed beyond the wires, showing that the change was due to the variations of temperature. Comparing the focal lengths found at extreme temperatures, it was found that they were sensibly constant, the change of position of the wires relatively to the true focus being sensibly equal to the expansion or contraction of the brass of the telescope, due to the change of temperature. It was, therefore, deemed advisable to use one focal adjustment for summer, and another for winter.

During the month of June the nadir point was found to be subject to continual variations through a range of 3″. The most careful examination failed to reveal the cause of this annoying phenomenon. On July 5, however, the clamping screws of several of the microscopes were tightened, and from about that time the changes ceased. It was presumed to date from May 26, the date of insertion of the new wires.

October 5–6. New wires had to be inserted, the old ones being once more found loose.

October 7. The new wires were adjusted for horizontality.

November 26. The focus being found too short, was adjusted by lengthening it.

INCLINATION OF DECLINATION WIRES TO THE HORIZON.

This was found by comparing the micrometer readings at passage over the extreme wires of a great number of stars, giving greater weight to stars between the zenith and equator, and entirely rejecting those which passed the meridian at a less altitude than 20°.

VALUE OF A REVOLUTION OF THE MICROMETER-SCREW.

The value of a revolution of the micrometer-screw is obtained by aid of the collimating eye-piece, and the circle graduations. As the use of the screw is limited in practice to arcs less than 5′, only the divisions corresponding to circle readings 269° 55′, 270° 0′, 270° 5′, were employed in this determination.

The method of proceeding was as follows: The circle having been set at reading 269° 55′, the microscopes were read, and the coincidence of the micrometer threads seen directly with the images reflected from the mercury were noted in the manner already detailed for finding irregularities of the screw and referred to again in connexion with nadir determinations. The circle was then moved and similar readings made in the approximate positions 270° 0′, 270° 5′, and, finally, 269° 55′, as at first. The agreement of the first and last readings serves as a check upon the constancy of the nadir point. The number of revolutions and parts of a revolution of the screw passed through is evidently a measure of the arc of the circle included between the readings of its two positions, and from which the former is derivable. The micrometer readings being corrected for irregularity of screw and for the small excess or defect of circle reading from the exact arc, the difference of the extreme micrometer readings was the equivalent of 600″ in arc.

The value of a micrometer-screw was thus determined by each of the observers on January 21st, and again on May 28th, after the focus had been shortened. The observations are given under their proper dates in the body of this volume. The results were as follows:

		N.	H.	Mean.
January 21 - - - - -	1*r.* =	31″.325	31″.344	31″.334.
May 28 - - - - - -	1*r.* =	31″.343	31″.340	31″.342.

The value found in 1863 being 31″.331, the first determination in 1864 was combined with it, and the value

$$1\ rev. = 31''.333$$

was adopted. The change from shortening the focus in May was so small that the same value was continued through the year.

THE NADIR POINT.

For determination of the Nadir point a cap is provided which fits loosely over any of the eye-pieces of the telescope. Just above the eye-lens the cap has a plate of thin glass inclined at an angle of 45°. This arrangement has the decided advantage of enabling the observer to collimate without removing the eye-piece used in observation, and thereby both avoids risk of injury to the threads and prevents the otherwise frequent admission of dust by air currents, &c.

The mode of observation is as follows: The circle telescope is so pointed that when the Nadir divisions of the former are accurately under the zeros of the microscopes the images of the horizontal threads in the field of the latter may be seen at a small distance from the threads themselves. The circle microscopes are read then, or at the conclusion of the reflection measures. The micrometer reading for the true Nadir, being that which corresponds to the coincidence of each thread seen directly with the image of the other seen by reflection may be obtained in three modes: 1. Three equal spaces may be formed as described when treating of the inequality of the micrometer-screws. 2. Each thread may be made to bisect the space between the other thread and its image. 3. The images may alternately be made to bisect the interval between the threads, to effect which the threads are moved over half their interval, or 0*r*.14 between every two successive readings. The observers generally gave preference to the last method, but occasionally used each of the others. As the Nadir point thus determined always depends upon the same set of divisions of the circle, and is made with the same part of the micrometer-screw, it will uniformly be affected with the errors of those divisions and by any inaccuracy peculiar to that portion of the screw.

METHOD OF OBSERVING.

The method of observing was the same as in preceding years, and consisted essentially in transferring the subdivision of the circle from the microscopes to the micrometer eye-piece. The circle having been previously set so that the divisions nearest to the reading for the given declination were as accurately as practicable under the zero of the microscopes, the object was repeatedly placed equidistant between the parallel threads whilst it was passing across the field, and the reading of the micrometer head noted each time. The circle microscopes were read either before or after the observation, and sometimes both before and after. By this method the correction for runs of the microscope screws, as well as for their possible periodic errors, is rendered generally inappreciable, the changes of their mean reading during a night's work usually being less than 5″.

In ordinary observations of stars, five micrometer measures between the parallel threads were made as nearly as practicable at vertical threads III–VII, or at vertical threads I, III, V, VII, and IX. For circumpolar stars only threads 1–5 were used. In observations of the sun, the circle was first set for one of the limbs and read beforehand, and while that limb approached the centre of the field, four micrometer readings were obtained at vertical threads I–IV. The junior observer, (D.) however, usually took but two readings for each limb. The circle was then quickly moved to the even reading for the other limb, another set of four measures taken at vertical threads VI–IX, and the microscopes were read afterwards. The order of limbs observed (N.S. or S.N.) was generally reversed on successive days. When both limbs of planets were observed, the measurements were usually made at alternate transit threads, thereby securing symmetry for each with reference to the meridian.

When direct and reflection observations of stars were made at the same transit, the observations were usually made in the same way as those of the sun.

The clock time of transit over the middle thread is entered in the observing-books, but has not been copied for the printed pages.

No account has been taken of the errors of circle graduation, either accidental or systematic. The probable value of the former, under the mean of six microscopes, was found in 1845–'46 to be only 0″.174; and, from the smallness and convergence of the reduction of the mean of two and of three microscopes to that of six, the systematic error of division was inferred to be equally minute.

EXPLANATION OF THE PRINTED OBSERVATIONS.

Column 1 contains the date, the day being assumed to commence with the transit of the sun.

Column 2 contains the number for reference.

Column 3 designates the object observed. The names of stars are taken from catalogues in the following order of preference:

British Association Catalogue.
Weisse's Catalogus Stellarum ex Zonis Regiomontanis.
Lacaille's Catalogue, published by the British Association.
Oeltzen's Catalogue, Argelander Zonen Beobachtungen.
Lalande's Catalogue, published by the British Association.

For anonymous stars the approximate right ascension is always given.

Column 4 shows the magnitude estimated at the time of observation.

Columns 5 and 6 show the number of micrometer readings and the transit threads at which these readings were made. When the number of micrometer readings does not correspond with the number of threads included within the limits stated in column 6, it is to be understood that the observations were taken at equal intervals between those limits.

Columns 7 to 12 are sufficiently explained by their respective titles.

Column 13 contains the mean of the six microscope readings. When any microscope is omitted, the reduction to the mean of the six from the mean of the pair to which it belongs has been found from a number of observations immediately preceding and following. One-half the correction is subtracted from the mean of the other four microscopes to obtain the numbers given in this column. The probable difference between this result and the true mean is less than two-tenths of a second.

Column 14 contains the mean of the observed micrometer readings.

Column 15 contains the corrected meridian reading of the micrometer deduced from the preceding by the application of—

1. The correction for irregularity of the micrometer-screw, the formulæ for which are given on p. xxiii. These formulæ were tabulated as follows, four successive values of the correction being used in the course of the year. Constants were added to the numbers of each table to make them all positive. The argument is the fraction of a revolution.

Arg.	Jan. 1 to Mar. 2.	Mar. 3 to May 24.	May 25 to Nov. 10.	Nov. 11 to Dec. 31.
r.	r.	r.	r.	r.
.00	0.020	0.009	0.012	+ 0.001
.05	23	0.011	14	2
.10	25	14	16	3
.15	27	16	17	4
.20	27	18	17	5
.25	27	19	17	6
.30	26	19	16	6
.35	23	18	15	6
.40	18	16	13	6
.45	0.013	14	0.011	6
.50	0.008	0.011	0.008	0.005
.55	4	0.009	6	4
.60	2	6	4	3
.65	1	4	3	2
.70	2	2	3	1
.75	4	1	3	0
.80	0.007	1	4	0
.85	0.011	2	5	0
.90	14	4	7	
.95	17	6	9	
.00	0.020	0.009	0.012	0.001

2. The reduction to the meridian. For observations made on any of the vertical wires the reduction is given by the formula:

$$\varDelta m = -\frac{\sin^2 h}{2r \sin 1''} \tan \delta;$$

h being the equatorial interval in arc of the vertical wire, and r the value of one revolution of the micrometer Expressing h in seconds of time, and putting for r its value already given, this expression becomes

$$\varDelta m = -[5.2405]\, h^2 \tan \delta,$$

the value of which, for different wires, is tabulated on pp. xxxii–xxxiii of the Washington Observations for 1863.

Stars near the pole are sometimes observed without reference to the vertical wires, the clock times of observation being recorded instead. In such cases the reduction to the meridian is computed by the formula:

$$\Delta m = -\frac{225 \sin 1''}{4r}(t-\alpha)^2 \sin 2\delta;$$

t being the true sidereal time of observation and α the right ascension of the star.

3. The correction of unsymmetrical observations of the Sun, Moon, and Planets, on account of motion in declination. In the case of the Moon the correction was computed by the formula:

$$\Delta m = [4\;943]\, hs \sec \delta\, \Delta \delta;$$

hs being the equatorial interval in seconds of time of the vertical wire at which the observation is made, and $\Delta \delta$ the change of declination in seconds of arc for one hour of terrestrial longitude.

In the case of the Sun both the motion in declination and the reduction to the meridian may be expressed as a function of the meridional zenith distance. A table has therefore been constructed, giving the combined value of these corrections when the Sun is observed over the four outside wires, as a function of the meridional zenith distance of its centre. It also gives the parallax in altitude.

4. The correction of unsymmetrical observations for inclination of the micrometer threads to the horizon. The values of this correction for the first four wires, of which the mean equatorial interval is 34s.5, were as follows:

	r.
January 1 to May 23 - - - -	$i = -0.016$
May 25 to October 4 - - - -	$i = 0.000$
October 8 to November 26 - - -	$i = +0.030$
November 26 to December 31 - -	$i = +0.014$

Columns 16, 17, and 18 contain the readings of the Newman barometer, its attached thermometer, and the external thermometer. By comparison with the standard barometer, the necessary correction of these readings is found to be only —0.001 inch, involving a correction of the log. refraction of —.00001. The readings of the attached thermometer are assumed to be correct. The external thermometer is a standard by Troughton & Simms, and is the one designated No. 3 in the Appendix to Washington Observations for 1845, page 54. It is placed outside of the north aperture, and is held between two horizontal supports, which carry it several inches beyond the wall. The scale is read by help of a small sextant telescope attached to the window frame.

Column 19 contains the adopted value of the micrometer zero, that is, the micrometer reading for the true nadir when the mean circle reading is exactly 270°. The value of the micrometric zero resulting from each nadir observation is found by subtracting the excess of the circle reading over 270°, expressed in micrometer revolutions, from the micrometer reading, corrected for irregularity of screw. When the extreme difference of these values, for a period of several days, is less than half a second of arc, the mean value is usually adopted for the entire period. Otherwise the results for each day are taken separately.

Column 20, entitled "correction for micrometer," contains the micrometer equivalent, or the difference between the quantities in columns 14 and 18 converted into arc. If the former quantities are denoted by m and the latter by m_0, the values in this column will be given by the formula:

$$\text{Corr.} = (m_0 - m)\, r.$$

Column 21 contains, as "correction for object," the sum of the following quantities:

1. The correction for refraction corresponding to the observed zenith distance and barometer and thermometer readings. This quantity is computed from Bessel's tables, as given in an expanded form in the Appendix to the Washington Observations for 1845. The observed zenith distance is obtained from the circle reading by applying the micrometer equivalent from the preceding column, and diminishing the sum by 90°.

The following corrections are applied to the thermometer readings for irregularities in the bore of the tube:

CORRECTIONS OF THERMOMETER.

Ther. scale.	Corr.	Δ log. ref.	Ther. scale.	Corr.	Δ log. ref.
°	°		°	°	
30	− 0.04	+ .00004	66	+ 0.20	− .00016
32	.06	5	68	.25	21
34	.11	10	70	.22	18
36	.08	7	72	.12	10
38	.05	4	74	+ .03	− 3
40	.02	2	76	− .01	+ 1
42	.01	1	78	.04	3
44	.00	0	80	.04	3
46	.01	1	82	.01	1
48	.03	3	84	.00	0
50	.04	3	86	.06	5
52	.03	3	88	.12	10
54	.01	1	90	.14	11
56	.01	1	92	.14	11
58	− .03	+ 3	94	.14	11
60	.00	0	96	.13	11
62	+ .05	− 4	98	.12	10
64	+ 0.12	− .00010	100	− 0.12	+ .00010

2. The correction for parallax for observations of the Sun, Moon, and Planets, computed for the first and last, by the formula:

$$p = \pi .\ \sin\,(z' - 11'.2);$$

and for the Moon:

$$\sin p' = \sin \pi .\ \sin\,(z' - 11'\ 14''.54).\ [9.9994302,]$$

$$\text{or } p' = \pi .\ \sin\,(z' - 11'\ 14''.54).\ [9.9994302].\ \frac{\text{sine } \pi}{\text{arc } \pi} \cdot \frac{\text{arc } p'}{\text{sine } p'}.$$

$$\text{and } p = p' \mp \tfrac{1}{2}\,(p \mp s)\,\sin p\,\sin s,$$

the upper signs corresponding to observations of the upper limb, and *vice versa*. The quantities

$$\frac{\text{sine } \pi}{\text{arc } \pi} \text{ and } \frac{\text{arc } p}{\text{sine } p}$$

are given in tables IX and X, and the correction of p' in the last formula is given in table XI of the Appendix to the Washington Observations for 1845. In these formulas

z' represents the observed zenith distance, corrected for refraction.

π, the equatorial horizontal parallax, as given in the American Ephemeris.

s, the semi-diameter of the object.

p, the required correction for parallax.

3. In cases when only one limb of an object is observed, the correction for semi-diameter is included under this head. This correction is in all cases taken from the American Ephemeris.

4. When the nominal centre of Venus was observed, the point of observation was supposed to be the mean of the two apparent limbs, and a correction was applied to reduce this point to the centre, as follows:

1864. Feb. 29, $+ 0''.07$. March 10, $+ 0''.09$; 20, $+ 0''.10$; 30, $+ 0''.10$. April 9, $+ 0''.10$; 19, $+ 0''.10$; 29, $+ 0''.10$.

Column 22 contains the sum of columns 13, 20, and 21, and is the observed geocentric zenith distance, increased by 90°. When only one limb of a body is observed or used for declination, the zenith distance is that of the centre; otherwise it is that of the apparent limb.

Column 23 contains the declination of the centre of the object, using the assumed latitude 38° 53′ 39″.25. When the preceding column gives the circle reading corresponding to the two limbs of a planet, and one of them is defective, that of the centre is found by applying that of the full limb to the semi-diameter deduced from the observation. This is obtained by dividing the observed diameter by $1 + \cos \theta$, or $1 + \cos \theta'$, θ and θ' being found from well-known formulas, and being defined in the Washington Observations for 1847.

Column 24 contains for the fixed stars the reduction from the apparent declination at date to the mean declination for 1860.0. They were computed by Bessel's formulæ, with constants prepared from the logarithms A, B, C, and D, of the American Ephemeris and Nautical Almanac, and, in addition to the terms included in that work, they include also those depending on twice the Moon's mean longitude. Corrections for proper motion have not been applied to any star.

Column 25 contains the initials of the observers' names:

N. denoting Prof. S. Newcomb.
H. " " Asaph Hall.
Ha. " " W. Harkness.
D. " Mr. M. H. Doolittle.

THE PRIME VERTICAL TRANSIT INSTRUMENT.

During the year 1864, this instrument was employed mainly in observations of α Lyræ.

The diaphragm of the eye-piece contains fifteen fixed vertical wires, and two horizontal ones, which pass across the middle of the field. There is also a vertical wire movable by a micrometer-screw.

METHOD OF OBSERVING.

A few minutes, generally about five, before the star reaches the first wire, the telescope is pointed approximately in the direction for commencing the observation, and four (occasionally six) level readings are taken, the level being reversed on the axis between every two readings. The time of transit over the seven wires first reached by the star is then noted by eye and ear with the clock of the south wing. The motion of the star being very oblique relatively to the wires, the telescope is moved before each transit over a wire, so that the transit shall take place between or near the two horizontal wires. As soon as the time of transit over the seventh wire is recorded the instrument is reversed, and the transits over the same wires, now upon the opposite side of the field, are noted in reverse order. Four level readings are again taken as before. The telescope is then turned toward the point at which the star crosses the west vertical, and as the star approaches it the same processes of level readings, transits, and reversal of instrument are repeated, the telescope being returned to its original side of the pier by the second reversal.

The time of reading the level was, after the first three weeks of 1864, frequently modified. The level was read and reversed immediately before the star reached the first wire. There being an interval of from 28*s*. to 40*s*. between every two successive transits, the level was read and reversed twice during those intervals. An interval of three minutes elapsing between the time of transit over the seventh wire and the time of return to the same wire after reversal, there is time to read the level, reverse the telescope, repoint it, and read and reverse the level again before commencing the observation in the reversed position of the telescope. This method was generally used by Newcomb, the other by Harkness.

One object of the new method was to test Struve's plan of reading the level before and after reversal of the telescope, without raising it from the axis. Such a set of level readings would then be taken in every observation by the new method. A comparison of 29 observations gave $0''.037$ for the mean difference of results by the actual methods and that of Struve. To find the probable error of the former, each pair of level readings was assumed to give an independent result for level. Two such pairs being taken in each position of the telescope, it was found that the mean difference of results between the two pairs was $0''.118$. The mean error of a single pair is therefore $0''.084$, and the mean error of the eight pair taken during each observation $0''.030$. This leaves for the residual error by Struve's method

$$\sqrt{0''.037^2 - 0''.030^2} = 0''.022.$$

As a further check upon the method the error of level of the instrument was determined by that method six times in succession on November 22, and four times on December 1, with the following results:

	″		″
November 22 - - -	+ 0.92	December 1 - - -	+ 0.35
	0.92		0.28
	0.87		0.30
	0.87		+ 0.40
	0.90		
	+ 0.92		

Before the last reading of December 1 a pivot of the instrument struck the Y laterally during reversal.

From these experiments it is concluded that discrepancies in the level determinations by the adopted method arise mainly from disturbances of the level produced by raising it from the pivots and setting it down again, and that the error in using Struve's method is practically insensible.

EXPLANATION OF THE OBSERVATIONS.

The first column gives the date on which the star crossed the meridian, between the transits over the Prime Vertical.

The three next columns need no explanation.

Columns 5 and 13, headed "Telescope," show whether the telescope was on the north or south side of the pier during the observations following in the same line.

In the columns "Times of transit," the recorded times of transit for each vertical are given from left to right in the order in which they occurred.

The level readings are each the mean of the four (or six) readings made in each vertical, and each position of the telescope. Columns N. give the mean of the readings on the north end of the level; columns S. that of the south readings.

The next column gives the mean error of level in each vertical, from the observations in both positions of the instrument.

The correction for level, given in the next column, is obtained by the formula

$$\delta \text{ Dec.} = 0''.984\ \delta b.$$

δb being the mean error of level, one division of which is assumed equal to a second of arc.

The apparent declination is obtained as follows:

Representing by φ the latitude of the instrument, by t and t_1 the observed times of the star's transit over a given thread in the east vertical before and after reversal of the instrument, and by t' and t'_1 the corresponding times at the west vertical, and making

$$s = \tfrac{1}{4}\left[\,(t'_1 - t) + (t' - t_1)\,\right];$$
$$u = \tfrac{1}{4}\left[\,(t'_1 - t) - (t' - t_1)\,\right];$$

we have

$$\tan \delta_0 = \tan \varphi \cos s \cos u.$$

The values of cos s and cos u are computed separately for each thread, and the mean result multiplied by the constant tan φ. The Prime Vertical Transit Instrument being forty-five feet south of the centre of the Mural Circle pier, its latitude has been assumed to be

$$38^\circ\ 53'\ 38''.80.$$

Then,

$$\text{Apparent declination} = \delta_0 + \text{correction for level.}$$

The correction for azimuth has been insensible during the year.

The reduction to 1860.0 has been computed by the formulæ of Bessel and Struve, using the proper motion found by Peters:

$$+\ 0''.2792.$$

Column "Weight" shows the excellence of the observations estimated by the observer at the time of making, on a scale of 1–5. 3 indicates an average observation. 2 and 4 indicate respectively an indifferent one and a good one; 1 and 5 a very poor one and a very good one.

The observers were: N., Prof. S. Newcomb. Ha., Prof. W. Harkness.

THE EQUATORIAL.

During the year 1864 the following asteroids have been observed with this instrument, to wit:

Egeria,
Eurynome,
Concordia,
Phocœa,
Europa,
Circe,
Thetis,
Bellona,
Juno,
Eunomia,
Victoria,
Psyche,
Ariadne,
Calypso,
Pallas,
Isis,
Metis,
Atalanta,
Harmonia,
Echo,
Ceres,
Amphitrite,
Cybele,
Fides,
Fortuna,
Euterpe, and
Terpsichore.

Of comets there have been observed that of Respighi, 1863, VI, and that of Tempel, 1864, I. Observations have also been continued on the Pleiades, in which group the places of thirty-two of the lesser stars have been determined. Much progress has likewise been made in similar work in the cluster of Præsepe, which was commenced during the present year, the places of more than ninety stars in this group having been determined. There have also been observed nineteen occultations of stars by the Moon.

The micrometer of the instrument contains the same number of transit and declination wires as at the end of the previous year.

The transit wires are five in number, and are designated by the letters a, A, B, C, c; the wire a being that over which a star first passes when the telescope is pointed south, the head of the micrometer-screw being turned downward. The equatorial intervals of these wires are as follows:

s.
B − a = 12.19
B − A = 8.38
C − B = 8.42
c − B = 11.99

The declination wires are designated by the numbers 1, 2, 3, 4, 5; the wire 1 being that which is nearest the head of the micrometer-screw. Their intervals throughout the year have been:

rev.
2 − 1 = 17.131
3 − 1 = 29.916
4 − 1 = 42.993
5 − 1 = 60.001

The value of a revolution of the micrometer-screw used in reducing these observations is the same as in the preceding year, or $15''.337$.

The places of all the stars of comparison have been determined by the meridian instruments of the Observatory, either in this or the two following years. But as these determinations were not always available for the equatorial comparisons, the catalogue places were used for the first results, and these last subsequently corrected by the more recent data as soon as obtained. A list is appended (page 390) of the right ascensions as given by the transit of all the stars of comparison, from which may be immediately derived the slight correction necessary where the catalogue place has been used instead of the true one.

EXPLANATION OF THE PRINTED OBSERVATIONS.

Column 1 contains the date and initial letter of the observer's name, (F. for Mr. Ferguson, and H. for Prof. Hall;) column 2, the names of the objects compared; columns 3, 4, and 5, the seconds of the transits; column 6, the mean of these transits, with the hour and minute prefixed; column 7, the micrometer reading; columns 8 and 9, the observed difference in α and δ, the first expressed in minutes and seconds, the second in revolutions and decimals; column 10, or the remainder of the page, contains: The correction for the chronometer; the apparent place of the comparison star at the time of observation; the mean of the observed differences of α and δ between the object compared and the star of comparison; and the corrections for differential refraction ($\Delta \rho$) and for parallax (p.)

Where a mean time chronometer has been used in the observations, there is added a small correction (Δt) to reduce the mean to the sidereal interval.

The tabulated results (pages 377–389) show the mean time of the observations at Washington, the observed places of the body corrected for refraction and parallax, and the mean places of the stars of comparison for 1860, together with the authorities from whence they have been derived.

MEAN DECLINATIONS FOR 1860.0 OF STARS OBSERVED WITH THE MURAL CIRCLE.

This section gives the results of the separate observations of each star with the Mural Circle. The approximate right ascensions are generally those deduced from the observed time of transit over the middle wire, and are subject to a probable error of perhaps 2*s*. But the right ascensions of well-known stars are frequently those of catalogues.

The declinations are those given in the section "Observations with the Mural Circle," applying the reductions to 1860.0 in column 24, without further correction. Results of direct and reflection observations of stars are, it will be seen, classified separately, in order that they may be more easily compared.

COMPARISON OF OBSERVATIONS DIRECT AND BY REFLECTION.

The following table gives, for each star observed in both ways, the degree of zenith distance, the seconds of declination which result from the direct and reflection observations respectively, and the excess of direct over reflection results. This excess, it will be seen, is always counted in the same direction, namely, from the equator toward the pole, so that declinations observed below the pole are regarded as negative. During the period of variable nadir point previously referred to, the results of reflection observations are separated, and not combined with the others.

COMPARISON OF DIRECT AND REFLECTION DECLINATIONS OF STARS DEDUCED FROM OBSERVATIONS WITH THE MURAL CIRCLE IN 1864.

(Observations made between May 28 and July 4 omitted.)

Name.	Z. D. N.	SECONDS OF DECLINATION. D.	R.	D—R.	Weight.	Name.	Z. D. N.	SECONDS OF DECLINATION. D.	R.	D—R.	Weight.
	°	"	"	"			°	"	"	"	
β Ursæ Minoris, S. P.	66	— 38.4	— 38.7	+ 0.3	1	τ Cassiopeæ	19	+ 21.2	+ 20.5	+ 0.7	2
50 Draconis, S. P.	66	59.5	61.6	+ 2.1	1	δ Ursæ Majoris	19	39.4	40.4	— 1.0	1
B. A. C. 3528, S. P.	58	2.7	3.2	+ 0.5	1	α Cassiopeæ	17	8.8	8.3	+ 0.5	2
δ Ursæ Minoris, S. P.	55	6.5	7.4	+ 0.9	3	η Persei	16	40.2	41.6	— 1.4	1
Polaris, S. P.	53	— 47.0	— 46.7	— 0.3	1	γ Ursæ Majoris	16	24.2	23.9	+ 0.3	2
Polaris	50	+ 47.5	+ 48.0	— 0.5	4	γ Draconis	13	24.1	25.3	— 1.2	1
λ Ursæ Minoris	50	25.5	25.0	+ 0.5	2	η Ursæ Majoris	11	48.2	47.7	+ 0.5	1
δ Ursæ Minoris	48	8.2	7.4	+ 0.8	3	ι Ursæ Majoris	9	17.6	17.6	0.0	1
B. A. C. 8213	48	7.4	7.8	— 0.4	1	δ Persei	8	11.1	10.3:	+ 0.8:	1
B. A. C. 7851	47	4.1	5.5	— 1.4	1	α Aurigæ	7	3.0	1.1	+ 1.9	3
1 (Hev.) Draconis	43	22.7	21.8	+ 0.9	2	α Cygni	6	54.3	52.6	+ 1.7	3
B. A. C. 1211	41	15.8	14.4	+ 1.4	2	α^2 Geminorum	7	29.5	29.6	— 0.1	1
4 (Hev.) Draconis	40	39.8	39.2	+ 0.6	1	ζ Cygni	9	16.3	16.2	+ 0.1	3
5 Ursæ Minoris	37	5.2	6.5	— 1.3	1	β Tauri	10	6.8	7.2	— 0.4	1
β Ursæ Minoris	36	39.3	40.9	— 1.6	1	α Andromedæ	11	2.4	3.1	— 0.7	2
B. A. C. 8314	35	54.2	52.9	+ 1.3	2	μ Leonis	12	52.1	51.0	+ 1.1	1
ψ^1 Draconis	33	58.4	57.6	+ 0.8	1	ε Leonis	14	1.9	1.7	+ 0.2	1
B. A. C. 7124	33	25.5	25.8	— 0.3	1	28 Tauri	15	21.5	19.1	+ 2.4	1
50 Cassiopeæ	33	27.6	28.6	— 1.0	2	η Tauri	15	10.2	8.4	+ 1.8	3
11 Cephei	32	4.7	2.7	+ 2.0	1	27 Tauri	15	20.0	20.8	— 0.8	1
ε Draconis	31	43.5	40.8	+ 2.7	1	α Arietis	16	55.5	55.1	+ 0.4	3
55 Camelopardali	30	51.0	51.0	0.0	1	20 Com. Ber.	17	19.0	17.6	+ 1.4	1
ι Cassiopeæ	28	13.2	11.9	+ 1.3	1	α Bootis	19	38.7	37.7	+ 1.0	1
α Camelopardali	27	57.0	54.6	+ 2.4	1	δ^1 Tauri	22	40.4	38.6	+ 1.8	2
α Draconis	26	45.3	47.1	— 1.8	1	γ Geminorum	22	54.8	53.9	+ 0.9	1
ε Cassiopeæ	24	43.4	42.5	+ 0.9	3	χ Tauri	23	28.7	28.0	+ 0.7	3
α Ursæ Majoris	24	21.8	21.5	+ 0.3	3	β Leonis	24	17.2	16.4	+ 0.8	1
α Cephei	23	36.2	35.8	+ 0.4	2	11 Orionis	24	22.2	20.4	+ 1.8	1
η Draconis	23	55.6	55.4	+ 0.2	1	η Piscium	24	23.1	22.1	+ 1.0	1
η Cephei	22	49.5	51.0	— 1.5	2	α Herculis	24	10.9	10.7	+ 0.2	2
β Camelopardali	21	+ 56.3	+ 54.2	+ 2.1	2	α Pegasi	24	+ 10.4	+ 8.5	+ 1.9	1

COMPARISON OF DIRECT AND REFLECTION DECLINATIONS OF STARS DEDUCED FROM OBSERVATIONS WITH THE MURAL CIRCLE IN 1864.

(Observations made between May 28 and July 4 omitted.)

SECONDS OF DECLINATION.						SECONDS OF DECLINATION.					
Name.	Z. D. N.	D.	R.	D—R.	Weight.	Name.	Z. D. N.	D.	R.	D—R.	Weight.
	°	″	″	″			°	″	″	″	
γ Pegasi	24	+ 19.4	+ 18.7	+ 0.7	2	α Canis Minoris . .	33	+ 46.5	+ 46.4	+ 0.1	1
α Ophiuchi . . .	26	55.2	53.0	+ 2.2	1	ν Piscium . . .	34	+ 41.2	+ 40.9	+ 0.3	1
α Leonis	26	61.6	59.9	+ 1.7	1	η Aquarii . . .	39	— 16.1	— 16.8	+ 0.7	1
ζ Pegasi	29	6.5	6.3	+ 0.2	2	κ Aquilæ . . .	45	6.7	8.7	+ 2.0	1
ο Virginis . . .	29	40.9	41.1	— 0.2	1	α Hydræ . . .	46	12.5	13.2	+ 0.7	1
ε Pegasi	30	6.6	6.9	— 0.3	1	β Orionis . . .	46	57.7	60.3	+ 2.6	1
α Aquilæ	30	8.4	7.3	+ 1.1	2	μ Aquarii . . .	47	20.7	22.3	+ 1.6	1
ξ^2 Ceti	31	51.0	50.0	+ 1.0	1	α Virginis . . .	48	45.1	46.0	+ 0.9	1
α Orionis . . .	32	41.2	38.4	+ 2.8	2	α^2 Capricorni . . .	51	32.2	32.8	+ 0.6	2
δ Piscium . . .	32	22.1	20.8	+ 1.3	1	α Canis Majoris . .	54	— 41.6	— 43.4	+ 1.8	3
β Aquilæ	33	+ 34.8	+ 33.3	+ 1.5	1						

Between May 28 *and July* 4.

Name.	Z. D. N.	D.	R.	D—R.	Weight.	Name.	Z. D. N.	D.	R.	D—R.	Weight.
Polaris, S. P. . .	53	— 48.5	— 43.4	— 5.1	3	ε Serpentis . . .	34	+ 7.3	+ 4.7	+ 2.6	1
4 Ursæ Minoris . .	39	+ 17.5	+ 21.2	— 3.7	3	ζ Virginis . . .	39	16.1	16.2	— 0.1	1
5 Ursæ Minoris . .	37	5.5	8.3	— 2.8	3	α Libræ	54	26.2	27.6	+ 1.4	1
β Ursæ Minoris . .	36	39.7	41.3	— 1.6	2	β Scorpii	58	11.1	13.0	+ 1.9	1
γ^2 Ursæ Minoris . .	33	54.8	57.8	— 3.0	1	α Scorpii	65	+ 2.7	+ 4.1	+ 1.4	2
α Coronæ Bor. . .	12	+ 15.0	+ 19.4	— 4.4	1						

The weights are not assumed proportional to the number of observations, but according to the following scale:

No. of obs.	Weight.
1	1
2— 3	2
4— 7	3
8—18	4
19—∝	5

It will be observed that there is a large excess of positive signs, especially in the south, the average value of the difference being about half a second in the north and a second in the south. To show more exactly the law which they follow, the means have been taken for every 5°, with the following result:

Z. D N.	D—R.	Weight.	Z. D. S.	D—R.	Weight.
° °	″		° °	″	
—66	+ 1.2	2	5— 9	0.0:	4
59—55	+ 0.8	5	10—14	— 0.1	5
54—50	— 0.2	7	15—19	+ 1.1	10
49—45	+ 0.1	5	20—24	+ 1.0	14
44—40	+ 1.0	5	25—29	+ 0.8	5
39—35	— 0.1	4	30—34	+ 1.2	10
34—30	+ 0.5	7	35—39	+ 0.7	1
29—25	+ 0.6	3	40—44		
24—20	+ 0.4	13	45—49	+ 1.6	5
19—15	+ 0.1	8	50—54	+ 0.2	2
14—10	— 0.4	2			
9— 5	+ 1.4:	8			

The observations are not yet sufficiently numerous to give the law of the difference with exactness in every part of the circle. It is probable, however, that they proceed, in part at least, from errors of division. So far as this is the case, they ought to repeat themselves at the end of every 60°. The following is a comparison of the differences of the results for corresponding parts of the circle in each 5° on the two sides of the zenith:

Z. D. N.	Z. D. S.	D—R. (S—N.)	Weight.
°	°		
52	7	+ 0.2:	5
47	12	— 0.2	5
42	17	+ 0.1	7
37	22	+ 1.1	6
32	27	+ 0.3	6
27	32	+ 0.6	5
22	37	+ 0.3	2
17	42		
12	47	+ 2.0	3
7	52	— 0.2:	3

Reflection observations within ten degrees of the zenith are liable to some suspicion from the circumstance that the light is cut off from a portion of the object glass by the interference of the mounting of the glass itself with a portion of the pencil of light falling on the mercury. Consequently, if the focus of the instrument is not accurately adjusted, (and it is doubtful whether the focus of any instrument can be relied on as exact at all temperatures,) the observation will be vitiated. Omitting the first and last numbers of the series, it seems that the values of D—R south of the zenith are on the average 0″.52 greater than those north of the zenith. Combining with the results of D—R in the south the values found for 60° further north increased by 0″.5, we have the following table of differences from the zenith to 60° south; half weight has been given to observations by reflection within 10° of the zenith.

Z. D. S.	D—R.	Z. D. N.	D—R.
°	″	°	″
2	+ 1.3	57	+ 0.8
7	0.2	52	— 0.3
12	0.2	47	— 0.3
17	1.3	42	+ 0.8
22	0.8	37	0.3
27	0.9	32	0.4
32	1.1	27	0.6
37	0.9	22	0.4
42	1.6	17	1.1
47	1.2	12	0.7
52	+ 1.6	7	+ 1.1
		2	

Supposing the errors, S and N, to go through a regular period of 60°, the following table has been constructed by a curve. It gives the most probable correction to be applied to direct observations in order to reduce them to the mean of direct and reflection results. The argument is the declination.

CORRECTIONS APPLIED TO DIRECT OBSERVATIONS OF DECLINATION.

(For reflection observations the sign is reversed.)

°	″	°	″	°	″	°	″	°	″
— 42	— 0.5	— 6	— 0.6	+ 28	— 0.1	+ 60	— 0.4	S.P.86	+ 0.2
40	0.4	4	0.6	30	0.1	62	0.4	84	0.2
38	0.3	— 2	0.5	32	0.2	64	0.3	82	0.3
36	0.2	0	0.5	34	0.2	66	0.3	80	0.4
34	0.2	+ 2	0.5	36	0.2	68	0.3	78	0.4
30	0.2	4	0.5	38	0.2	70	0.3	76	0.4
28	0.3	6	0.5	40	0.2	72	0.3	74	0.5
26	0.3	8	0.5	42	0.2	74	0.2	72	0.5
24	0.3	10	0.5	44	0.2	76	0.2	70	0.5
22	0.3	12	0.5	46	0.3	78	0.2	68	0.5
20	0.3	14	0.5	48	0.3	80	0.2	66	0.5
18	0.4	16	0.5	50	0.3	82	0.1	64	0.5
16	0.4	18	0.5	52	0.3	84	0.0	62	0.5
14	0.5	20	0.5	54	0.4	86	+ 0.1	60	0.5
12	0.5	22	0.4	56	0.4	88	0.1	58	0.4
10	0.6	24	0.3	58	0.4	+ 90	0.0	56	0.4
— 8	— 0.6	+ 26	— 0.2	+ 60	— 0.4	S.P.88	+ 0.1	S.P.54	+ 0.4

OBSERVED RIGHT ASCENSIONS, DECLINATIONS, AND SEMI-DIAMETERS OF THE SUN, MOON, AND PLANETS.

The results of observations of these bodies with the Transit Instrument and the Mural Circle will be found on pages 363 to 376. The mean times of transit of the Sun, Moon, and larger planets, have been taken without change from the American Ephemeris; those of the small planets from the supplements to the Nautical Almanac, or Berlin Jahrbuch.

The columns headed "Limb" indicate the limb observed, blanks implying that either the centre or both limbs have been observed.

When the centre was observed the right ascension has been transcribed without change from the section "Observations with the Meridian Transit Instrument." When only one limb was observed the correction for semi-diameter in the last column has been applied. When both limbs were observed, one being defective, the correction for defective illumination has been computed by the usual methods.*

The observed declinations have been deduced from those of the section "Observations with the Mural Circle," by applying to the latter the following corrections:

1. The correction for discordance of direct and reflection observations, from the table, page xxxvi.

2. When only one limb of the Sun was observed, a correction due to personal difference between the mean semi-diameter of the year, deduced from the observations of each separate observer, and that of the American Ephemeris. The several corrections were as follows:

		″	
Observer.	N.	+ 1.22	Correction to Sun's semi-diameter in American Ephemeris.
	Ha. . . .	+ 0.56	
	D.	+ 1.52	

3. In the case of the asteroids, the correction for parallax.

The columns C — O show the errors of the tabular positions of the bodies observed as they result from the observations. The Sun, Moon, and larger planets, are compared with the American Ephemeris; Ceres, Juno, and Vesta, with the Supplement to the Nautical Almanac for 1868; and the other small planets, with the Supplement to the Berlin Jahrbuch for 1866. A comparison of the observed positions of the Moon with Hansen's tables is also given. This comparison was not made directly, but, to obtain the positions from Hansen's tables, the positions of the American Ephemeris are increased by the difference between the American Ephemeris and the Nautical Almanac at that Greenwich hour nearest the absolute time of Washington transit; a correction of ± 0″.3 being further applied for difference of tabular semi-diameters. In 1862 it was found that the results thus obtained were substantially identical with those obtained by direct computation.

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* Washington Observations for 1863, p. xlii.

CATALOGUE OF STARS OBSERVED IN THE YEAR 1864.

The magnitudes given in this Catalogue are exclusively those which result from the estimates given in the preceding sections.

The right ascensions are deduced from those of the section "Mean Places for 1860.0 of Stars observed with the Transit Instrument," without change.

The declinations are obtained from those in the section "Mean Declinations for 1860.0 of Stars observed with the Mural Circle," applying the correction for discordance of direct and reflection observations (page xxxvi.) Observations of different classes were combined as follows:

1. In combining direct and reflection observations the weights were assumed not proportional to the number of observations, but according to the scale given in the comparison of direct and reflection observations.

2. Observations made between May 28 and July 5 are allowed a weight of but ½ when combined with those made without those limits. But when a star was observed both directly and by reflection at the same transit, the mean of the two was considered equivalent to two good observations, and therefore received the weight 2.

Observations above and below the pole are kept entirely separate.

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XXXIX

APPENDIX.

INVESTIGATION OF THE LATITUDE AND LONGITUDE
OF THE
U. S. NAVAL OBSERVATORY, WASHINGTON,
AND OF
THE DECLINATIONS OF CERTAIN CIRCUMPOLAR STARS.

BY PROFESSOR SIMON NEWCOMB, U. S. N.

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On the line below the preceding are given the values of the same quantities which result from observations below the pole.

Next we have the difference of results above and below the pole, which is equal to twice the correction of latitude.

Finally, we have the weight given to this correction, allowing the result from no one star a weight greater than 10.

Star.	R. A.	Dec.	P. M.	SECONDS OF DECLINATION FOR 1860.0.							2 Δ λ.	W.
				1861.	1862.	1863 D.	1863 R.	1864 D.	1864 R.	Concl'd.		
	h. m.	° ′	″	″	″	″	″	″	″	″	″	
λ Urs. Min.	20 3	88 53	+ 0.01	. .	25.0_1	[23.9_3	. .	25.6_3	24.9_1	24.80	— 0.73	4
S. P.	. .	. .	. .	. .	23.8_1	. .	. .	24.2_2	. .	24.07		
Polaris	1 8	88 33	0.01	47.4_2	48.0_2	46.9_3	48.0_2	47.6_4	47.9_3	47.60	0.54	10
S. P.	. .	. .	. .	47.0_2	46.6_2	47.6_3	. .	47.1_4	46.7_2	47.06		
51 (Hev.) Cephei	6 33	87 14	0.00	. .	54.5_1	53.1_1	. .	55.6_2	. .	54.70	0.80	4
S. P.	. .	. .	. .	52.8_1	53.8_2	55.0_2	. .	53.0_1	. .	53.90		
δ Urs. Min.	18 16	86 36	0.02	7.8_2	7.9_2	7.5_2	. .	8.2_4	7.2_2	7.80	0.78	8
S. P.	. .	. .	. .	. .	7.0_2	8.2_1	. .	6.6_3	7.1_2	7.02		
B. A. C. 8213	23 28	86 32	0.02	. .	. .	6.7_2	7.1_2	7.4_2	7.6_1	7.1	1.1	4
S. P.	. .	. .	. .	. .	. .	. .	. .	6.0_3	. .	6.0		
B. A. C. 7851	22 24	85 24	+ 0.01	. .	5.7_1	5.3_2	6.7_1	4.2_1	5.4_1	5.4	— 1.4	3
S. P.	. .	. .	. .	. .	. .	. .	. .	4.0_2	. .	4.0		
B. A. C. 3495	10 8	84 57	— 0.07	. .	33.2_1	. .	. .	32.7_1	. .	33.0	+ 0.2	2
S. P.	. .	. .	. .	. .	. .	33.6_1	32.8_1	. .	. .	33.2		
B. A. C. 4342	12 48	84 10	0.02	. .	. .	. .	. .	26.9_2	. .	26.9	— 1.2	2
S. P.	. .	. .	. .	. .	. .	25.7_2	. .	. .	. .	25.7		
B. A. C. 3528	10 13	83 16	0.07	. .	. .	. .	. .	5.4_1	. .	5.4	2.4	1
S. P.	. .	. .	. .	. .	. .	. .	. .	2.9_2	3.3_1	3.0		
B. A. C. 2326	7 0	82 40	— 0.02	. .	. .	. .	. .	5.6_2	. .	5.6	0.5	1
S. P.	. .	. .	. .	. .	. .	. .	. .	5.1_1	. .	5.1		
B. A. C. 7990	22 48	82 24	+ 0.07	. .	. .	39.8_1	38.4_1	. .	. .	39.1	0.6	2
S. P.	. .	. .	. .	. .	. .	. .	. .	38.5_2	. .	38.5		
ε Urs. Min.	17 1	82 15	0.00	. .	40.9_2	39.9_2	. .	41.7_2	. .	40.8	1.4	5
S. P.	. .	. .	. .	. .	39.1_1	. .	. .	39.5_4	. .	39.4		
76 Draconis	20 53	82 0	+ 0.03	. .	. .	35.4_1	35.1_1	35.1_1	. .	35.2	1.1	2
S. P.	. .	. .	. .	. .	. .	. .	. .	34.1_2	. .	34.1		
1 (Hev.) Drac.	9 17	81 56	0.00	. .	20.9_2	. .	. .	22.6_3	21.9_1	21.9	0.9	5
S. P.	. .	. .	. .	. .	22.0_1	21.2_2	20.4_2	. .	. .	21.0		
B. A. C. 7299	20 54	80 1	— 0.05	. .	. .	30.3_2	31.7_1	. .	. .	30.8	0.8	2
S. P.	. .	. .	. .	. .	. .	. .	. .	30.0_2	. .	30.0		
B. A. C. 2095	6 22	79 42	0.61	. .	. .	. .	. .	17.1_2	. .	17.1	0.1	2
S. P.	. .	. .	. .	. .	. .	. .	. .	17.0_2	. .	17.0		
4 (Hev.) Drac.	12 6	78 23	0.01	. .	41.6_2	40.3_1	. .	39.5_2	38.5_2	39.9	0.9	4
S. P.	. .	. .	. .	38.0_1	. .	39.1_1	40.0_1	. .	. .	39.0		
ζ Urs. Min.	15 49	78 13	0.00	. .	24.4_1	23.1_1	. .	. .	. .	23.8	0.5	3
S. P.	. .	. .	. .	22.7_2	. .	. .	. .	23.8_2	. .	23.3		
4 Urs. Min.	14 9	78 12	0.01	. .	. .	. .	. .	19.6_1	19.9_2	19.8	1.6	3
S. P.	. .	. .	. .	. .	. .	18.6_1	18.7_1	17.2_1	. .	18.2		
κ Cephei	20 14	77 17	0.00	. .	15.6_1	16.9_2	. .	. .	. .	16.5	— 1.1	2
S. P.	. .	. .	. .	. .	. .	. .	. .	15.4_2	. .	15.4		
48 (Hev.) Cephei	3 3	77 12	— 0.06	50.4_1	. .	. .	. .	. .	. .	50.4	+ 0.2	1
S. P.	. .	. .	. .	. .	50.6_1	50.6_2	. .	. .	. .	50.6		
γ Cephei	23 34	76 51	+ 0.15	4.7_2	. .	4.1_2	4.1_2	. .	. .	4.3	— 0.5	3
S. P.	. .	. .	. .	. .	. .	. .	. .	3.8_2	. .	3.8		
9 (Hev.) Drac.	10 23	76 25	— 0.03	. .	. .	. .	. .	56.5_2	. .	56.5	1.7	2
S. P.	. .	. .	. .	. .	. .	55.1_1	54.5_1	. .	. .	54.8		
5 Urs. Min.	14 28	76 19	— 0.02	. .	6.0_2	5.5_2	. .	. .	6.6_4	6.2	1.0	4
S. P.	. .	. .	. .	5.3_1	. .	5.2_1	3.7_1	5.6_3	. .	5.2		
η Urs. Min.	16 22	76 4	+ 0.20	. .	. .	. .	. .	34.5_1	. .	34.5	1.1	1
S. P.	. .	. .	. .	. .	. .	. .	. .	33.4_2	. .	33.4		
50 Draconis	18 51	75 15	+ 0.06	. .	. .	58.1_1	64.0_1	62.3_3	. .	61.8	1.6	4
S. P.	. .	. .	. .	. .	60.7_1	. .	. .	59.6_2	60.9_1	60.2		
B. A. C. 1706	5 21	74 56	0.00	. .	. .	. .	. .	32.2_1	. .	32.2	1.4	2
S. P.	. .	. .	. .	. .	30.6_2	. .	. .	31.0_2	. .	30.8		
β Urs. Min.	14 51	74 43	— 0.03	40.6_2	39.7_2	39.6_2	. .	39.1_1	40.5_3	40.0	1.0	6
S. P.	. .	. .	. .	38.3_2	39.8_2	39.6_1	. .	39.0_2	38.3_1	39.0		
21 Cassiopeæ	0 36	74 13	0.06	19.8_2	. .	18.6_1	. .	. .	. .	19.4	1.8	1
S. P.	. .	. .	. .	. .	17.6_1	. .	. .	. .	. .	17.6		
B. A. C. 8314	23 48	73 37	— 0.03	. .	. .	. .	52.4_1	54.1_2	53.2_2	53.4	1.0	4
S. P.	. .	. .	. .	. .	50.3_1	. .	. .	53.1_3	. .	52.4		
79 Draconis	21 51	73 2	0.00	. .	. .	25.8_2	26.6_2	. .	26.2	26.2	1.7	2
S. P.	. .	. .	. .	. .	. .	. .	. .	24.5_1	. .	24.5		

Star.	R. A.	Dec.	P. M.	SECONDS OF DECLINATION FOR 1860.0.						Concl'd.	2 Δ λ.	W.
				1861.	1862.	1863 D.	1863 R.	1864 D.	1864 R.			
	h. m.	° ′	″	″	″	″	″	″	″	″	″	
γ Urs. Min.	15 21	72 19	+ 0.03	. .	55.5_2	54.5_1	. .	. .	55.9_2	55.5	− 0.4	3
S. P.	. .	. .	. .	54.6_1	. .	. .	. .	55.4_2	. .	55.1		
11 Urs. Min.	15 17	72 19	+ 0.01	. .	54.2_1	. .	. .	. .	. .	54.2	+ 0.4	1
S. P.	. .	. .	. .	. .	. .	55.1_1	. .	54.1_1	. .	54.6		
ψ^1 Draconis	17 44	72 12	− 0.26	. .	. .	. .	. .	59.2_2	59.0_1	59.1	− 0.9	2
S. P.	. .	. .	. .	. .	. .	. .	. .	58.2_2	. .	58.2		
B. A. C. 7124	20 31	72 3	− 0.02	. .	26.4_1	25.3_2	. .	25.3_9	26.2_r	25.7	− 1.5	3
S. P.	. .	. .	. .	. .	. .	. .	. .	24.2_2	. .	24.2		
50 Cassiopeæ	1 51	71 44	0.00	. .	26.3_1	28.7_1	. .	27.3_2	28.9_2	27.9	+ 0.7	3
S. P.	. .	. .	. .	. .	. .	28.8_1	. .	28.3_1	. .	28.6		
11 Cephei	21 40	70 40	+ 0.07	. .	. .	2.5_1	. .	4.1_1	2.7_1	3.1	− 0.9	2
S. P.	. .	. .	. .	. .	. .	. .	. .	2.2_2	. .	2.2		
κ Draconis	12 27	70 33	− 0.02	. .	38.0_1	38.0_1	. .	. .	. .	38.0	− 2.0	2
S. P.	. .	. .	. .	35.6_2	. .	36.5_2	. .	. .	. .	36.0		
d Urs. Maj.	9 22	70 26	+ 0.05	. .	. .	. .	. .	31.6_1	. .	31.6	+ 0.2	1
S. P.	. .	. .	. .	. .	-	31.8_1	. .	. .	. .	31.8		
β Cephei	21 27	69 56	− 0.04	47.8_2	. .	48.3_2	48.3_2	. .	. .	48.1	− 0.7	3
S. P.	. .	. .	. .	. .	. .	. .	. .	47.4_2	. .	47.4		
A Cassiopeæ	1 21	69 32	0.08	. .	30.3_1	. .	. .	32.8_1	. .	31.6	1.8	2
S. P.	. .	. .	. .	. .	. .	29.5_1	. .	30.0_2	. .	29.8		
55 Camelop.	7 59	68 52	− 0.10	. .	. .	. .	. .	51.1_1	51.7_1	51.4	1.2	2
S. P.	. .	. .	. .	. .	49.2_1	. .	. .	50.6_2	. .	50.2		
ω Draconis	17 38	68 49	+ 0.29	. .	20.5_2	19.5_1	. .	21.3_2	. .	20.6	1.0	3
S. P.	. .	. .	. .	. .	. .	. .	. .	19.6_2	. .	19.6		
B. A. C. 5406	16 6	68 10	+ 0.07	. .	45.0_2	. .	. .	. .	. .	45.0	0.4	2
S. P.	. .	. .	. .	44.7_1	. .	. .	. .	44.5_2	. .	44.6		
σ Urs. Maj.	8 58	67 42	− 0.09	. .	. .	. .	. .	57.1_1	. .	57.1	2.4	1
S. P.	. .	. .	. .	. .	. .	. .	. .	54.7_2	. .	54.7		
δ Draconis	19 13	67 24	+ 0.07	. .	53.1_1	. .	. .	56.6_2	. .	56.1	1.9	1
S. P.	. .	. .	. .	. .	. .	. .	. .	54.2_1	. .	54.2		
α Camelop.	4 40	66 5	+ 0.01	. .	. .	. .	. .	56.7_2	54.8_1	56.1	3.6	2
S. P.	. .	. .	. .	. .	52.5_2	. .	. .	. .	. .	52.5		
ι Cephei	22 45	65 27	− 0.14	. .	. .	53.0_2	53.1_1	54.0_1	54.5_1	53.5	2.2	3
S. P.	. .	. .	. .	. .	. .	. .	. .	51.3_2	. .	51.3		
α Draconis	14 1	65 2	0.03	. .	45.1_2	44.9_2	. .	45.1_1	47.6_1	45.5	1.1	4
S. P.	. .	. .	. .	. .	. .	42.7_1	. .	44.9_3	. .	44.4		
ε Cassiop.	1 44	62 58	0.00	. .	. .	44.5_1	42.3_1	43.0_2	43.3_2	43.2	3.7	2
S. P.	. .	. .	. .	. .	. .	. .	. .	39.5_1	. .	39.5		
α Urs. Maj.	10 55	62 30	0.09	24.1_1	. .	22.2_1	. .	21.8_3	22.3_2	22.2	1.7	5
S. P.	. .	. .	. .	20.0_2	. .	20.3_2	. .	21.3_2	. .	20.5		
β Cassiopeæ	0 2	58 22	− 0.17	. .	. .	39.7_1	. .	. .	. .	39.7	0.2	1
S. P.	. .	. .	. .	. .	. .	. .	. .	39.5_1	. .	39.5		
τ Cassiopeæ	23 40	57 52	+ 0.06	. .	. .	20.5_1	. .	20.4_2	20.6_2	20.5	1.6	3
S. P.	. .	. .	. .	. .	. .	. .	. .	18.9_2	. .	18.9		
δ Urs. Maj.	12 8	57 48	− 0.06	. .	. .	. .	. .	39.3_1	40.4_1	39.8	1.9	1
S. P.	. .	. .	. .	. .	. .	37.9_1	. .	. .	. .	37.9		
β Urs. Maj.	10 54	57 7	+ 0.03	. .	. .	. .	. .	54.4_1	. .	54.4	2.6	1
S. P.	. .	. .	. .	. .	. .	51.8_2	. .	. .	. .	51.8		
ξ Draconis	17 51	56 53	+ 0.06	. .	. .	. .	. .	44.3_1	. .	44.3	1.7	1
S. P.	. .	. .	. .	. .	. .	. .	. .	42.6_1	. .	42.6		
γ Urs. Maj.	11 46	54 28	− 0.02	. .	. .	. .	. .	23.7_2	24.5_2	24.0	− 5.8	3
S. P.	. .	. .	. .	. .	. .	18.2_2	. .	. .	. .	18.2		

Dividing the preceding list into groups, each of which occupies five degrees of declination, and taking the mean by weights, we have the following results for the double correction of latitude given by stars at different distances from the pole.

Limits of Dec.	2 Δ λ.	Total weight.
° °	″	
85 — 90	— 0.77	33
80 — 85	0.97	22
75 — 80	1.00	29
70 — 75	0.89	32
65 — 70	1.50	23
60 — 65	2.27	7
55 — 60	1.60	7
51 — 55	— 5.8	3

An increase in the value of the correction as we leave the pole is quite well marked. If the instrumental errors were perfectly determined we might attribute this to a small error in Bessel's constant of refraction as applied to this Observatory. But, since nothing is known of the errors of division and flexure of the circle, except that they are very small, and the zenith distance of our pole is too great to allow of our obtaining any reliable correction to the constant of refraction from observations of circumpolar stars, we shall deduce the correction of latitude on the supposition that the constant of refraction is correct. For this purpose we shall give the correction derived from corresponding numbers of observations a weight diminishing as we approach the horizon, slowly at first, but more rapidly afterward, so as to vanish at an altitude of 5°. The different corrections, with the weights assigned, will then be as follows:

Limits of Dec.	Δ λ.	W′	W″	W	W × Δ λ.
	″				″
85 — 90	— 0.39	33	1.0	33	— 12 8
80 — 85	0.48	22	1.0	22	10.6
75 — 80	0.47	29	0.8	23	10.8
70 — 75	0.44	32	0.6	19	8.4
65 — 70	0.75	23	0.4	9	6.7
60 — 65	1.14	7	0.2	1	— 1.1
55 — 60	— 0.80	7	0.0	0	0.0
Σ	. . .	. . .	. . .	107	50.4

And the concluded correction to the assumed latitude is

$$-0''.47.$$

Making the concluded latitude of the Observatory

$$38^\circ\ 53'\ 38''.78\ \text{N}.$$

Considering how small the discrepancies of those four determinations which enter into the result with the largest weight, I think we may safely say that (the possible error of refraction excepted) this determination cannot be in error by much more than one-tenth of a second.

§ 2.

DECLINATIONS OF THE STARS USED IN THE ABOVE DETERMINATION.

Correcting the declinations for the error of latitude, the results of observations above and below the pole are as in the following table. This gives (1) the seconds of declination concluded from all the upper culminations, with the weight; (2) the same quantities deduced from the inferior culminations; (3) the concluded declination for 1860.0, with the final weight of this result; and (4) the correction to Dr. Gould's positions, as adopted in the American Ephemeris. In forming (3), as in combining for latitude, the value of an obserrvation below the pole, has been supposed to diminish as we approach the horizon, vanishing entirely at an altitude of 5°.

It will be seen that the corrections (4) do not strictly correspond to the epoch 1860.0, but to that of the mean of the observations, which may be taken as 1864.0 without any uncertainty comparable with that of the determination itself.

The probable instrumental error of each determination may be roughly estimated at $\frac{0''.6}{\sqrt{W}}$. This, of course, does not include the possible error arising from atmospheric causes.

Name.	R. A.	(1)		(2)		(3)		(4)
		Dec. U. C.	Wt.	Dec. L. C.	Wt.	Concluded declination. (1860. 0.)	Wt.	Correction to Gould.
	h. m.					° ′ ″		″
β Cassiopeæ	0 2	39.2	1	40.0	1	58 22 39.4	1	-
21 Cassiopeæ	0 36	18.9	3	18.1	1	74 13 18.7	4	+ 1.0
Polaris	1 8	47.12	10	47.54	10	88 33 47.33	20	+ 0.14
A Cassiopeæ	1 21	31.1	2	30.3	2	69 32 30.8	3	— 1.2
ε Cassiopeæ	1 44	42.7	6	40.0	1	62 58 42.6	6	
50 Cassiopeæ	1 51	27.4	6	29.1	2	71 44 27.8	7	+ 0.5
48 Cassiopeæ	3 3	49.9	1	51.1	2	77 12 50.7	3	+ 0.8
α Camelopardis	4 40	55.6	3	53.0	2	66 5 54.6	4	— 0.8
B. A. C. 1706	5 21	31.7	1	31.3	4	74 56 31.4	3	— 0.6
B. A. C. 2095	6 22	16.6	2	17.5	2	79 42 17.0	4	
51 (Hev.) Cephei	6 34	54.22	4	54.38	6	87 14 54.32	10	+ 0.12
B. A. C. 2326	7 0	5.1	2	5.6	1	82 40 5.3	3	
55 Camelopardis	7 59	50.9	2	50.7	3	68 52 50.8	4	+ 0.9
σ^2 Ursæ Majoris	8 58	56.6	1	55.2	2	67 41 55.9	2	+ 1.6
1 (Hev.) Draconis	9 17	21.4	6	21.5	5	81 56 21.4	10	— 1.2
d Ursæ Majoris	9 22	31.1	1	32.3	1	70 26 31.6	2	0.0
B. A. C. 3495	10 8	32.5	2	33.7	2	84 57 33.1	4	
B. A. C. 3528	10 13	4.9	1	3.5	3	83 16 3.9	3	
9 (Hev.) Draconis	10 23	56.0	2	55.3	2	76 25 55.7	4	+ 0.6
β Ursæ Majoris	10 54	53.9	1	52.3	2	57 7 53.2	2	
α Ursæ Majoris	10 55	21.7	7	21.0	6	62 30 21.4	12	
γ Ursæ Majoris	11 47	23.5	3	18.7	2	54 28 23.5	3	
4 (Hev.) Draconis	12 6	39.4	7	39.5	3	78 23 39.4	9	+ 0.9
δ Ursæ Majoris	12 8	39.3	2	38.4	1	57 48 39.2	2	
κ Draconis	12 27	37.5	2	36.5	3	70 33 37.0	4	+ 0.6
B. A. C. 4342	12 48	26.4	2	26.2	2	84 10 26.3	4	+ 0.8
α Draconis	14 1	45.0	6	44.9	4	65 2 45.0	8	+ 0.9
4 Ursæ Minoris	14 9	19.3	3	18.7	3	78 12 19.0	6	
5 Ursæ Minoris	14 28	5.7	7	5.7	6	76 19 5.7	11	+ 0.6
β Ursæ Minoris	14 51	39.5	10	39.5	8	74 43 39.5	15	+ 0.9
11 Ursæ Minoris	15 17	53.7	1	55.1	2	72 19 54.4	2	
γ^2 Ursæ Minoris	15 20	55.0	2	55.6	3	72 19 55.2	7	— 0.9
ζ Ursæ Minoris	15 49	23.3	2	23.8	4	78 13 23.6	5	— 0.3
B. A. C. 5406	16 6	44.5	2	45.1	3	68 10 44.8	4	— 0.2
η Ursæ Minoris	16 22	34.0	1	33.9	2	76 4 33.9	2	
ε Ursæ Minoris	17 1	40.3	6	39.9	5	82 15 40.1	10	— 1.0
ω Draconis	17 38	20.1	5	20.1	2	68 49 20.1	6	+ 1.3
ψ^1 Draconis	17 44	58.6	3	58.7	1	72 12 58.6	4	— 0.7
ξ Draconis	17 51	43.8	1	43.1	1	56 53 43.7	1	
δ Ursæ Minoris	18 15	7.32	10	7.50	8	86 36 7.40	18	+ 1.3
50 Draconis	18 51	1.3	5	0.7	4	75 16 1.1	8	+ 1.4
δ Draconis	19 13	55.6	3	54.7	1	67 24 55.3	3	+ 0.9
λ Ursæ Minoris	20 3	24.32	8	24.55	3	88 53 24.40	11	— 0.36
κ Cephei	20 13	16.0	3	15.9	1	77 17 16.0	4	+ 0.1
B. A. C. 7124	20 31	25.2	5	24.7	2	72 3 25.0	6	— 0.8
76 Draconis	20 53	34.7	3	34.6	2	82 0 34.7	5	
B. A. C. 7299	20 54	30.3	3	30.5	2	80 1 30.4	4	+ 0.7
β Cephei	21 27	47.6	5	47.9	2	69 56 47.7	6	+ 0.7
11 Cephei	21 40	2.6	3	2.7	1	70 40 2.6	3	+ 1.1
79 Draconis	21 51	25.7	4	25.0	1	73 2 25.6	4	+ 0.8
B. A. C. 7851	22 24	4.9	6	4.5	2	85 24 4.8	8	
ι Cephei	22 45	53.0	5	51.8	2	65 27 52.8	6	+ 0.2
B. A. C. 7990	22 48	38.6	2	39.0	2	82 24 38.8	4	
B. A. C. 8213	23 28	6.6	7	6.5	3	86 32 6.6	10	
γ Cephei	23 34	3.8	6	4.3	2	76 51 3.9	7	— 0.2
τ Cassiopeæ	23 40	20.0	5	19.4	2	57 52 19.9	5	
B. A. C. 8314	23 48	52.9	5	52.9	4	73 37 52.9	8	+ 0.6

§ 3.

DIFFERENCE OF LONGITUDE BETWEEN WASHINGTON AND GREENWICH RESULTING FROM MOON CULMINATIONS TO 1863 INCLUSIVE.

In appendix A. to the introduction to the Washington observations for 1862 is given a discussion of the moon-culminations to 1860 inclusive. I now propose to combine with the former result that for 1862 and 1863.

For this purpose the error of Hansen's tables in Right Ascension at the time of transit over Washington is deduced from the Greenwich observations, and compared with the error resulting from the Washington observations, as printed in the appropriate section. The differences (G—W) are classified with reference to the moon's limb observed, and the Washington observer, and the mean of each class taken. The result is as follows:

Class.	Mean difference, (G—W.)	Longitude, 5h. 8m.	No. of observations.	Weight.
	s.	s.		
Y I	— 0.061	10.4	39	5
Y II	0.086	9.8	45	5
N I	0.039	10.6	36	5
N II	— 0.023	11.4	25	5
R I	+ 0.007	12.2	6	2
R II	— 0.101	9.4	12	3

The above longitudes are obtained by applying to the assumed longitude (5*h*. 8*m*. 12*s*.) the correction 26 (G—W). They still require two systematic corrections:

1. A correction —0*s*.5 for difference of siderial time of mean noon between the British Nautical Almanac and the American Ephemeris in those years.

2. A correction —0*s*.25 for excess of adopted positions of clock stars used at Washington.

Taking the mean by weights, and applying these corrections, we have

5*h*. 8*m*. 9*s*.8.

This is 1*s*.8 less than the longitude deduced in 1862, a result so anomalous as to give rise to the suspicion of some constant difference in the data used in comparing the observations with theory. But a direct computation of the moon's motion for 5*h*. 8*m*. 12*s*. of terrestrial longitude, by the method and tables of the former paper, in a couple of the more anomalous cases, showed that the anomaly was in the observations themselves. Thus, we have:

Date.	1863, Jan. 6.	March 3.
	h. m. s.	h. m. s.
Greenwich time of Greenwich transit	13 29.9	10 52.0
Greenwich time of Washington transit	18 47.6	16 9.7
Commencement of that 5*h*. equally distant between Greenwich and Washington transit	13 39	11 1
Moon's motion during those 5*h*. (Hansen)	9 51.69	9 50.26
Resulting motion between meridians, (Wash. Observations, 1862, p. xliv)	10 26.74	10 25.17
R. A. of centre observed at Greenwich	8 34 23.93	9 36 52.90
The same, reduced to 5*h*. 8*m*. 12*s*. west	8 44 50.67	9 47 18.07
R. A. of centre observed at Washington, if reduced with Greenwich elements . .	8 44 50.33	9 47 17.85
Difference	— 0.34	— 0.22
Difference of printed tabular errors	— 0.34	— 0.19
Correction for difference of adopted mean time	0	— 0.01
Outstanding discrepancy	0	0.02

Thus there is a substantial agreement between the results of the two methods, and the discrepancy can arise only from changes in the observers, or their habits of observing.

Reasoning *à priori*, I think we may fairly give to this series four-tenths the weight of the former. Combining them with these relative weights, we have for the difference of longitude between the observatories of Washington and Greenwich

5*h*. 8*m*. 11*s*.1.

The principal values of the longitude of Washington which have been deduced from other sources are as follows:

1. By Bond, from the chronometric expeditions between Cambridge and Liverpool, Washington being supposed 23m. 41.54s. west of Cambridge, and Liverpool 12m. 0.05s. west of Greenwich:

	h.	m.	s.		s.
Voyages of 1849–'50	5	8	12.0	±	0.29[*]
1851			12.3	±	0.25
1855			13.4	±	0.19

The last result was considered much the most reliable, as great care was taken to protect the chronometers from changes of temperature, and determine its effect on their rates.

2. By moon-culminations:

	h.	m.	s.
Loomis, from observations at Hudson	5	8	7.4[‡]
Gilliss, from observations at old Naval Observatory			10.0[§]
Bache, from miscellaneous observations, including Loomis's and Gilliss's			9.9[‖]
Result of the present investigation			11.1

3. By eclipses and occultations:

	h.	m.	s.
Bache, from miscellaneous eclipses and occultations	5	8	11.1
Peirce, from solar eclipse of 1851, July 21			11.6[¶]
Peirce, from occultations of Pleiades, 1839, September 26			11.45[**].

Of these three methods, that by the transportation of chronometers would seem to be least free from such constant errors as are not eliminated by increasing indefinitely the number of observations. It is therefore singular that it should give results so far exceeding the results of the other methods. Further criticism upon them is, however, foreborne, as we trust that their respective absolute errors will speedily be determined by means of the Atlantic cable.

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[*] Report of Superintendent U. S. Coast Survey for 1854, page 141.
[†] Report of Superintendent U. S. Coast Survey for 1856, page 185.
[‡] Transactions of the American Philosophical Society, vol. x, page 10
[§] Washington Observations, 1863, page vii.
[‖] Coast Survey Report, 1857, page 266.
[¶] Coast Survey Report, 1861, page 195.
[**] Coast Survey Report, 1861, page 220.

OBSERVATIONS

WITH THE

MERIDIAN TRANSIT INSTRUMENT,

1864.

OBSERVATIONS

WITH THE

MERIDIAN TRANSIT INSTRUMENT.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 1	Polaris	1	. .	. .	. .	. .	. .	. .	. .	. .	. .	32. 0	26. 0	33 59. 00	—24 20. 95	+ 7. 62	. . . .	— 103. 19
	β Arietis	2	45. 9	48. 0	49. 5	59. 5	0. 5	1. 8	3. 1	4. 2	14. 4	15. 7	17. 9	47 1. 86	— 0. 02	7. 60	1 47 9. 44	14. 72
	O. Arg. S. 1344 .	†3	24. 9	27. 0	28. 1	38. 7	39. 9	41. 0	42. 3	43. 5	54. 1	55. 4	57. 4	2 41. 12	+ 0. 04	7. 59	2 2 48. 75	12. 30
Y.	ξ¹ Ceti	4	26. 5	28. 5	29. 7	39. 3	40. 4	41. 5	42. 7	43. 9	53. 5	54. 7	56. 6	5 41. 57	0. 00	7. 59	2 5 49. 16	14. 17
	O. Arg. S. 1433 .	†5	7. 2	9. 6	10. 9	21. 5	22. 6	23. 9	25. 0	26. 2	37. 5	38. 7	40. 8	9 23. 99	0. 04	7. 59	2 9 31. 62	12. 04
	* — 1° 8′ . . .	6	3. 5	5. 6	6. 8	26. 2	27. 2	28. 3	29. 6	30. 8	40. 4	41. 5	43. 4	51 28. 48	0. 01	7. 57	2 51 36. 06	13. 85
	* — 34° 56′ . .	7	31. 8	34. 2	35. 8	. .	. .	. .	. .	. .	4. 6	6. 0	8. 4	58 50. 13	+ 0. 01	7. 56	2 58 57. 70	11. 13
	η Virginis	8	. .	. .	. .	2. 7	3. 7	5. 7	21. 0	23. 5	24. 6	25. 9	27. 2	13 16. 79	— 26. 01	7. 30	12 12 58. 08	13. 36
	Lacaille 5220 . .	†9	. .	. .	. .	30. 3	31. 5	32. 9	34. 3	35. 6	47. 0	48. 3	50. 6	29 38. 82	5. 86	7. 29	12 29 40. 25	13. 98
	O. Arg. S. 12342 .	10	53. 7	55. 8	57. 1	7. 6	8. 9	10. 2	11. 6	12. 7	23. 1	24. 3	26. 6	34 10. 15	0. 04	7. 29	12 34 17. 40	13. 81
	Lacaille 5278 . .	11	2. 5	4. 8	6. 1	17. 4	18. 6	19. 9	21. 5	22. 8	34. 2	35. 6	38. 0	39 20. 13	0. 06	7. 28	12 39 27. 35	14. 09
	Moon II . . .	†12	56. 3	58. 4	59. 7	9. 7	10. 8	12. 0	13. 2	14. 3	24. 3	25. 3	27. 5	43 11. 95	0. 01	7. 28	12 43 19. 22	. .
	Lacaille 5371 . .	13	8. 6	11. 0	12. 5	24. 2	25. 3	26. 6	28. 1	29. 4	40. 8	42. 3	44. 7	55 26. 68	0. 06	7. 28	12 55 33. 90	14. 11
	B. A. C. 4369 . .	14	. .	. .	. .	. .	. .	. .	46. 5	49. 4	50. 8	52. 6	54. 0	56 50. 66	40. 42	7. 28	12 56 17. 52	14. 28
	θ Virginis	15	. .	. .	. .	45. 9	46. 9	48. 1	49. 4	50. 5	0. 0	1. 2	3. 3	2 53. 16	4. 97	7. 27	13 2 55. 46	13. 24
	Polaris, S. P. . .	16	. .	. .	. .	10. 0	31. 0	48. 0	57. 0	15. 0	. .	. .	. .	9 44. 20	— 5. 71	7. 27	. . . .	102. 78
R.	α Ophiuchi . . .	17	14. 4	16. 3	17. 7	27. 6	28. 5	29. 7	30. 9	31. 9	42. 0	43. 0	45. 1	28 29. 74	+ 0. 03	7. 09	17 28 36. 86	10. 63
2	Sun I	†18	2. 4	4. 3	5. 8	16. 6	17. 5	18. 6	20. 0	21. 1	31. 4	32. 9	35. 2	49 18. 71	— 0. 03	7. 09	18 49 25. 77	. .
	Sun II	†19	25. 0	27. 0	28. 2	38. 7	39. 7	41. 0	42. 5	43. 5	53. 9	55. 0	57. 3	51 41. 07	— 0. 03	7. 09	18 51 48. 13	. .
	ε Pegasi	†20	8. 0	9. 9	11. 4	20. 9	21. 9	23. 1	24. 4	25. 4	35. 3	36. 4	38. 6	37 23. 21	+ 0. 02	7. 08	21 37 30. 31	11. 74
	11 Orionis	21	27. 7	29. 7	31. 0	40. 8	41. 9	43. 0	44. 3	45. 4	55. 5	56. 6	58. 6	56 43. 14	+ 0. 05	7. 07	4 56 50. 26	16. 01
	ε Leporis	22	21. 2	23. 4	24. 6	35. 1	36. 1	37. 3	38. 5	39. 5	50. 1	51. 4	53. 6	59 37. 35	— 0. 06	7. 07	4 59 44. 36	12. 19
	Uranus	23	51. 9	54. 1	55. 6	6. 0	7. 0	8. 3	9. 5	10. 8	21. 3	22. 5	24. 5	26 8. 32	+ 0. 08	7. 06	5 26 15. 46	. .
	Polaris, S. P. . .	†24	55. 0	36. 0	42. 0	. .	. .	. .	. .	. .	. .	. .	. .	18 44. 33	— 9 7. 31	7. 05	. . . .	101. 99
	η Bootis	25	50. 3	52. 2	53. 5	3. 3	4. 4	5. 7	7. 0	8. 0	18. 2	19. 8	21. 8	48 5. 84	+ 0. 09	7. 05	13 48 12. 98	11. 79
3	α Bootis	†26	5. 2	7. 2	8. 6	18. 7	19. 8	21. 1	22. 3	23. 4	33. 6	34. 9	37. 0	9 21. 07	+ 0. 09	6. 59	. . . .	11. 15
Y.	Moon II . . .	†27	25. 0	27. 0	28. 4	38. 6	39. 5	40. 8	42. 1	43. 2	53. 6	54. 8	57. 0	27 40. 91	— 0. 06	6. 58	14 27 47. 43	. .
6	Vesta	28	. .	. .	. .	. .	. .	. .	29. 0	31. 6	32. 7	34. 0	35. 4	3 32. 54	34. 31	4. 22	3 3 2. 45	. .
	Lacaille 1048 . .	29	. .	. .	. .	55. 7	56. 8	58. 1	59. 5	0. 7	11. 5	12. 7	15. 2	12 3. 78	— 5. 52	4. 21	3 12 2. 47	11. 78
	ε Eridani	30	13. 8	15. 8	17. 0	26. 8	27. 8	29. 0	30. 2	31. 2	41. 1	42. 3	44. 4	26 29. 04	+ 0. 02	4. 20	3 26 33. 26	13. 22
R.	Lacaille 1186 . .	31	49. 4	51. 7	52. 9	3. 5	4. 4	6. 0	7. 4	8. 4	19. 0	20. 2	22. 4	36 5. 94	+ 0. 03	4. 19	3 36 10. 16	11. 91
	η Tauri	32	5. 7	7. 7	9. 1	19. 8	20. 9	22. 0	23. 4	24. 6	35. 2	36. 3	38. 7	39 22. 13	— 0. 01	4. 19	3 39 26. 31	— 16. 37
	ζ Ursæ Minoris, S. P.	33	1. 5	52. 3	46. 4	59. 2	54. 0	48. 8	43. 3	38. 0	50. 9	44. 6	35. 3	48 48. 57	+ 0. 19	4. 18	. . . .	+ 15. 40
	ε Tauri	34	23. 2	25. 2	26. 3	36. 6	37. 5	38. 8	40. 0	41. 1	51. 5	52. 6	54. 9	20 38. 88	— 0. 01	4. 16	4 20 43. 03	— 16. 24
	Lacaille 1485 . .	35	13. 3	15. 4	16. 7	27. 6	28. 8	30. 1	31. 5	32. 6	43. 8	45. 2	47. 0	24 30. 18	+ 0. 04	4. 15	4 24 34. 37	11. 43
	B. A. C. 1450 . .	36	8. 9	11. 0	12. 4	22. 9	24. 0	25. 2	26. 6	27. 8	38. 6	39. 7	41. 8	34 25. 35	0. 03	4. 15	4 34 29. 53	11. 92
	μ Eridani	37	25. 2	27. 3	28. 3	37. 9	38. 9	40. 0	41. 3	42. 4	51. 9	53. 0	55. 0	38 40. 11	+ 0. 01	4. 15	4 38 44. 27	14. 05
	Uranus	38	14. 8	16. 9	18. 3	28. 2	29. 5	30. 9	32. 2	33. 3	44. 0	45. 2	47. 6	25 30. 99	— 0. 01	4. 11	5 25 35. 09	. .
	α Leporis	39	. .	. .	. .	54. 4	55. 8	57. 8	13. 9	16. 3	17. 7	18. 9	20. 4	27 9. 40	27. 32	4. 11	5 26 46. 19	12. 71
	ε Orionis	40	. .	. .	. .	14. 7	15. 7	17. 0	18. 2	19. 2	28. 9	30. 0	31. 9	29 21. 95	— 4. 95	+ 4. 10	5 29 21. 10	14. 36
Y.	α Ophiuchi . . .	†41	17. 6	19. 4	20. 8	30. 8	31. 8	32. 9	34. 3	35. 5	45. 0	46. 3	48. 2	28 32. 96	. .	. .	. . . . .	— 10. 73

3. Blurred.
5. Blurred and faint.
9. Faint.
12. Unsteady; limb badly defined.
18–19. Both limbs badly defined.
20. Through clouds.
24. Unsteady; through clouds.
26. Through clouds.
27. Steady; through thin clouds.
41. Faint.

January 1. Night very unfavorable.
2. Hebe just visible in field without illumination.
6. Melpomene not visible.
6. Looked for Hebe; three or four very small stars in the field; too faint for observation.

		s.
January 1,	1h. to 3h. n. =	— 0. 07.
	12h. to 14h.	+ 0. 10.
2,	17h. to 22h.	+ 0. 10.
	4h. to 6h.	+ 0. 16.
	13h. to 14h.	+ 0. 23.
3,		+ 0. 23.
6,		— 0. 05.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 1, 7. 3	+ 7. 44	— 0. 029	+ 0. 007
2, 3. 0	7. 07	0. 002	
3, 14. 2	6. 59	0. 019	
6, 4. 5	+ 4. 15	— 0. 045	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 8	Sun I	1	28.3	30.3	31.8	42.1	43.1	44.5	45.8	46.8	57.5	58.7	0.8	15 44.52	+ 0.01	+ 3.25	19 15 47.78	. .
.	Sun II	2	49.7	51.8	53.1	3.4	4.5	5.7	7.1	8.3	18.8	20.1	22.3	18 5.89	0.01	3.25	19 18 9.15	. .
	α Aquilæ	3	50.1	52.2	53.3	2.9	3.9	5.2	6.4	7.4	17.1	18.3	20.4	44 5.20	0.01	3.25	. . . .	— 11.33
R.	ε Pegasi	4	11.9	14.0	15.2	24.8	25.8	27.0	28.2	29.3	39.0	40.2	42.3	37 27.06	0.01	3.22	. . . .	11.72
Y.	Venus II . . .	5	. .	50.3	51.5	1.6	2.7	3.9	5.2	6.3	16.5	17.8	. .	11 3.98	0.02	2.94	16 11 6.94	0.65
	α Ophiuchi . . .	6	18.7	20.7	22.0	31.8	32.8	34.0	35.1	36.3	46.1	47.3	49.4	28 34.02	0.01	2.92	17 28 36.95	10.77
9	Sun I	7	50.8	52.7	54.3	4.6	5.7	6.9	8.2	9.3	19.9	21.1	23.2	19 6.97	0.01	2.89	19 19 9.87	. .
	Sun II	8	12.0	14.0	15.4	25.6	26.7	28.0	29.3	30.4	40.9	42.2	44.4	21 28.08	0.01	2.89	19 21 30.98	. .
	α Aquilæ	9	50.4	52.4	53.6	3.4	4.3	5.5	6.8	7.8	17.7	18.8	20.8	44 5.59	0.01	2.88	19 44 8.48	— 11.34
	Mercury I . . .	10	33.0	35.1	36.5	46.4	47.5	48.7	50.0	51.2	1.2	2.6	4.7	41 48.81	0.01	2.87	20 41 51.69	+ 0.25
	β Cephei	11	4.9	10.6	14.4	42.1	44.8	48.4	51.8	54.9	23.0	26.7	32.3	26 48.54	0.02	2.85	. . . .	— 1.04
	α Pegasi	12	41.3	43.4	44.7	54.5	55.5	56.8	58.0	59.0	9.0	10.2	12.3	57 56.79	0.01	2.83	22 57 59.63	12.25
	67 Ceti	13	55.3	57.5	58.6	8.2	9.2	10.4	11.6	12.7	22.4	23.8	25.8	10 10.50	0.01	2.78	2 10 13.29	13.24
	Weisse 209 . . .	14	49.5	51.4	52.8	2.5	3.5	4.8	5.9	6.9	16.8	18.0	20.2	14 4.75	0.00	2.78	2 14 7.53	14.50
	B. A. C. 743 . .	15	0.4	2.9	4.4	15.0	16.2	17.7	18.9	20.0	30.9	32.3	34.6	17 17.57	0.01	2.78	2 17 20.36	11.85
	ξ² Ceti	†16	39.6	41.5	42.8	52.3	53.4	54.4	55.5	56.6	6.4	7.6	9.5	20 54.51	0.01	2.78	2 20 57.30	14.20
	* — 27° 52′ . .	17	. .	. .	. .	8.8	10.0	11.2	12.6	13.9	24.7	26.2	28.5	23 16.99	5.60	2.77	2 23 14.16	11.81
	O. Arg. S. 1630 .	18	10.3	12.6	14.1	24.9	26.0	27.3	28.7	29.8	40.8	42.0	44.3	26 27.35	0.01	2.77	2 26 30.13	11.82
	O. Arg. S. 1664 .	19	25.0	27.3	28.6	39.2	40.5	41.7	43.0	44.3	55.1	56.5	58.6	29 41.80	0.01	2.77	2 29 44.58	11.83
	* — 31° 13′ . .	20	37.5	39.8	41.2	52.4	53.6	54.8	56.3	57.6	8.7	10.3	12.6	32 54.98	0.01	2.77	2 32 57.76	11.49
	Lacaille 838 . .	21	37.4	39.6	40.8	51.8	52.9	54.3	55.6	56.9	7.8	9.1	11.6	36 54.35	0.01	2.77	2 36 57.13	11.69
	Lacaille 865 . .	22	48.9	51.2	52.5	2.9	4.2	5.5	6.8	8.0	18.7	20.0	22.3	40 5.55	0.01	2.77	2 40 8.33	11.91
	O. Arg. S. 1838 .	23	5.9	7.9	9.3	19.1	20.1	21.4	22.6	23.8	33.9	35.1	37.3	43 21.49	0.01	2.77	2 43 24.27	12.54
	* — 31° 22′ . .	24	51.7	54.2	55.5	6.7	7.8	9.2	10.6	11.8	23.1	24.5	27.0	46 9.28	0.01	2.77	2 46 12.06	11.42
	O. Arg. S. 1910 .	25	34.0	36.3	37.5	48.2	49.2	50.3	51.6	52.8	3.3	4.5	6.7	49 50.40	0.01	2.77	2 49 53.18	12.06
	* — 27° 28′ . .	26	30.4	32.5	33.7	44.5	45.7	47.3	48.4	49.6	0.4	1.6	3.7	52 47.07	0.01	2.77	2 52 49.85	11.74
	O. Arg. S. 1968 .	27	34.9	37.3	38.6	49.4	50.5	51.9	53.2	54.4	5.4	6.6	8.9	54 51.92	0.01	2.77	2 54 54.70	11.58
	Weisse 295 . . .	28	20.2	22.2	23.3	33.3	34.4	35.7	36.8	37.8	47.7	48.9	50.9	17 35.56	0.01	2.76	3 17 38.33	14.79
	Weisse 334 . . .	29	33.2	35.1	36.4	46.2	47.2	48.5	49.8	50.7	0.6	1.8	3.8	19 48.48	0.00	2.76	3 19 51.24	15.04
	Lacaille 1160 . .	30	23.2	25.6	27.0	38.3	39.4	40.7	42.0	43.4	54.7	56.0	58.4	32 40.79	0.01	2.76	3 32 43.56	11.20
	O. Arg. S. 2468 .	31	54.7	56.9	58.2	8.6	9.6	10.9	12.2	13.3	24.0	25.2	27.5	36 11.01	+ 0.01	2.76	3 36 13.78	12.01
	η Tauri	†32	. .	. .	. .	21.1	22.4	23.6	24.9	25.9	36.6	37.9	40.1	39 29.06	— 5.41	2.75	3 39 26.40	16.35
	27 Tauri	33	47.9	50.0	51.3	1.7	2.9	4.0	5.4	6.7	17.2	18.5	20.6	41 4.20	0.00	2.75	3 41 6.95	16.36
	28 Tauri	34	26.1	27.6	28.8	30.0	32.8	. .	38.4	41.0	42.2	43.7	45.1	41 5.57	0.26	2.75	3 41 8.06	16.37
	Weisse (2) 1013 .	35	10.9	12.4	13.6	14.8	17.3	. .	21.0	23.7	24.9	26.4	27.7	46 49.27	0.25	2.75	3 46 51.77	15.99
	Weisse (2) 1019 .	36	27.7	29.0	30.4	31.5	34.0	.	37.9	40.4	41.7	43.2	44.5	47 6.03	— 0.25	2.75	3 47 8.53	15.99
	* + 19° 41′ . .	37	42.5	44.6	45.7	56.0	57.0	58.3	59.6	0.7	10.9	12.0	14.3	48 58.33	0.00	2.75	3 49 1.08	16.01
	* — 27° 17′ . .	38	29.7	32.0	33.4	44.0	45.1	46.4	47.9	49.0	59.9	1.0	3.4	54 46.53	+ 0.01	2.75	3 54 49.29	11.63
	O. Arg. S. 2796 .	39	31.9	34.0	35.4	45.6	46.6	47.8	49.2	50.3	0.7	1.8	4.1	59 47.95	0.01	2.75	3 59 50.71	12.28
	Lacaille 1549 . .	40	58.5	0.7	2.2	13.0	14.2	15.5	16.8	18.1	29.0	30.4	32.6	35 15.55	0.01	2.74	4 35 18.30	11.49
	μ Eridani	41	26.6	28.4	29.7	39.3	40.4	41.4	42.7	43.7	53.4	54.5	56.7	38 41.53	+ 0.01	2.74	4 38 44.28	14.04
	Uranus I . . .	42	23.8	25.5	26.7	27.9	30.5	. .	35.8	38.6	39.8	41.3	42.7	25 3.26	— 0.26	2.73	5 25 5.73	. .
	Uranus II . . .	43	47.2	49.2	50.6	1.0	2.0	3.4	4.7	5.8	16.2	17.5	19.7	25 3.40	0.00	2.73	5 25 6.13	. .
	ε Orionis	44	3.3	5.4	6.6	16.1	17.3	18.3	19.3	20.4	30.2	31.2	33.4	29 18.32	+ 0.01	2.72	5 29 21.05	14.36
	Lacaille 2033 . .	45	26.8	28.8	30.3	41.2	42.3	43.6	45.0	46.1	.	. .	. .	46 38.01	5.74	2.72	5 46 46.47	11.46
	O. Arg. S. 4534 .	46	49.5	51.7	53.0	3.8	5.0	6.3	7.5	8.7	19.7	21.0	23.2	55 6.31	+ 0.01	2.72	5 55 9.04	11.67
	* — 28° 35′ . .	47	36.4	37.9	39.3	40.5	43.2	. .	51.7	54.6	55.8	57.0	58.7	59 17.51	— 0.26	2.72	5 59 19.97	11.60
	* — 28° 35′ . .	48	3.0	5.1	6.4	17.3	18.4	19.8	21.1	22.3	33.3	34.5	37.1	59 19.85	+ 0.01	2.72	5 59 22.58	11.60
	Lacaille 2163 . .	49	3.1	5.7	6.9	18.1	19.2	20.6	22.0	23.1	34.5	35.9	38.3	4 20.67	0.01	2.72	6 4 23.40	11.32
	Lacaille 2180 . .	50	21.5	23.7	25.1	35.6	36.7	38.3	39.4	40.5	51.4	52.6	54.8	6 38.15	+ 0.01	+ 2.71	6 6 40.87	— 11.85

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 8, 20.7	+ 3.23	— 0.016	+ 0.007
9, 1.4	+ 2.79	— 0.016	

16. Unsteady.
32. Unsteady.

January 9. Looked for Egeria, but could not see it. Observed Vesta, but it failed to be recorded on the fillet.

January 9, 5h. 45m. Image east 0.05 r. Clamp east.
Night unfavorable; much interrupted by the freezing of the fluid in the pen.

January 8, n. = 0.00 s.
8–9, 16h. to 23h. 0.00.
9, 2h. to 7h. —0.01.

DATE.	OBJECT.	Number.	SECOND OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 9	δ Ursæ Minoris, S. P.	1	. .	. .	. .	21.0	3.0	42.0	23.0	5.0	. .	. .	. .	15 42.80	— 0.75	+ 2.71	. . . . .	+ 105.51
	γ Geminorum . . .	2	35.4	37.6	38.8	48.9	49.9	51.1	52.4	53.5	3.5	4.5	6.7	29 51.12	0.00	2.71	6 29 53.83	— 16.37
	51 Cephei	†3	. .	. .	. .	28.5	50.0	. .	38.0	0.0	. .	. .	. .	36 14.12	+ 0.89	2.71	6 36 17.72	158.39
10	Venus II . . .	†4	21.6	23.8	25.0	35.2	36.4	37.7	38.8	40.0	50.1	51.4	53.6	20 37.60	— 0.01	1.89	16 20 39.48	0.64
R.	α Herculis . . .	5	9.4	11.3	12.4	22.4	23.4	24.6	25.9	26.8	36.8	38.0	40.0	8 24.64	+ 0.02	1.87	17 8 26.53	10.64
	α Ophiuchi . . .	6	20.0	21.7	23.1	32.8	33.8	35.0	36.0	37.4	47.3	48.5	50.5	28 35.10	+ 0.02	1.86	17 28 36.98	10.81
11	Sun I	†7	34.6	36.4	37.8	48.0	49.1	50.3	51.6	52.9	3.3	4.6	6.6	28 50.47	— 0.01	1.81	19 28 52.27	. .
	Sun II	8	55.5	57.4	58.7	9.1	10.2	11.4	12.8	13.8	24.3	25.5	27.8	31 11.50	— 0.01	1.81	19 31 13.30	. .
	α Aquilæ	9	51.5	53.6	54.8	4.4	5.4	6.6	7.7	8.9	18.5	19.8	21.8	44 6.64	+ 0.01	1.80	19 44 8.45	— 11.35
	Mercury I . . .	10	6.6	8.6	10.0	19.9	21.0	22.3	23.5	24.6	34.8	36.0	38.0	48 22.30	— 0.01	1.76	20 48 24.05	+ 0.26
	β Cephei	11	5.7	11.5	15.0	42.9	45.7	49.1	52.7	55.7	23.7	27.3	33.2	26 49.32	+ 0.12	1.75	21 26 51.19	— 0.98
	ε Pegasi	12	13.4	15.4	16.7	26.3	27.3	28.5	29.7	30.8	40.5	41.6	43.8	37 28.55	0.02	1.74	21 37 30.31	11.70
	Moon I	13	30.7	32.7	33.9	43.9	45.0	46.2	47.5	48.5	58.4	59.7	1.8	45 46.21	0.00	1.74	21 45 47.95	. .
Y.	α Pegasi	14	42.4	44.5	45.7	55.5	56.5	57.8	59.1	0.1	10.0	11.3	13.5	57 57.85	0.02	. .	. . . . .	12.23
R.	Polaris	15	. .	. .	. .	4.0	46.0	34.0	22.0	5.0	. .	. .	.	9 34.20	1.38	1.64	. . . . .	. .
	δ Ceti	16	57.9	59.7	1.0	10.7	11.7	12.8	14.0	15.0	24.9	26.1	28.0	17 12.89	0.01	1.64	1 17 14.54	12.91
	ε Eridani	17	16.4	18.3	19.6	29.2	30.1	31.3	32.5	33.5	43.5	44.7	46.8	26 31.45	+ 0.01	1.58	3 26 33.04	12.92
	Weisse 575 . . .	18	2.5	3.9	5.3	6.3	8.5	. .	9.0	11.0	12.4	13.6	14.9	31 38.74	— 0.23	1.58	3 31 40.09	14.24
	Weisse 580 . . .	19	35.8	37.6	38.9	48.5	49.5	50.6	51.9	52.9	2.5	3.5	5.5	31 50.65	+ 0.01	1.58	3 31 52.24	14.24
	Lacaille 1199 . .	20	5.2	7.4	8.7	19.6	21.0	22.5	23.7	24.9	35.8	37.3	39.5	38 22.33	0.02	1.57	3 38 23.92	11.45
	B. A. C. 1179 . .	21	37.6	39.8	41.4	52.3	53.4	54.7	55.9	57.2	8.4	9.7	12.3	40 54.79	0.02	1.57	3 40 56.38	11.36
	B. A. C. 1222 . .	†22	23.4	25.5	27.0	37.9	38.9	40.3	41.7	43.1	53.9	55.3	57.4	48 40.40	+ 0.02	1.57	3 48 41.99	11.59
	γ Eridani	23	. .	. .	. .	39.0	40.0	41.1	42.3	43.5	53.4	54.7	56.9	51 46.36	— 5.10	1.57	3 51 42.83	12.92
	τ^9 Eridani	24	51.5	53.4	54.9	5.3	6.5	7.7	8.9	10.1	21.7	22.0	24.2	54 7.84	+ 0.02	1.57	3 54 9.43	11.91
	Lacaille 1324 . .	25	33.6	35.7	37.0	47.9	49.0	50.7	51.9	53.0	3.8	5.3	7.7	56 50.51	0.02	1.57	3 56 52.10	11.43
	B. A. C. 1273 . .	26	44.4	46.6	48.0	58.6	59.7	1.4	2.5	3.6	14.5	15.7	18.4	0 1.22	0.02	1.56	4 0 2.80	11.53
	Lacaille 1370 . .	27	59.5	1.6	3.0	13.7	14.7	16.2	17.6	18.7	29.3	30.5	32.8	4 16.15	0.02	1.56	4 4 17.73	11.80
	Lacaille 1373 . .	28	46.5	48.6	50.2	0.7	1.7	3.1	4.4	5.5	16.2	17.5	19.8	5 3.11	0.02	1.56	4 5 4.69	11.80
	Lacaille 1393 . .	29	42.2	44.3	45.6	56.0	57.0	58.4	59.8	0.8	11.5	12.7	15.0	9 58.48	0.02	1.56	4 10 0.06	11.98
	B. A. C. 1340 . .	30	45.0	47.2	48.5	59.2	0.2	1.5	2.9	4.0	14.7	16.0	18.3	14 1.59	0.02	1.56	4 14 3.17	11.81
	ε Tauri	31	25.7	27.8	28.8	39.0	40.0	41.3	42.7	43.7	53.8	54.9	57.1	20 41.35	0.00	1.55	4 20 42.90	16.21
Y.	Venus II . . .	†32	10.9	12.7	14.1	24.3	25.3	26.8	27.9	29.0	39.0	40.4	42.6	25 26.64	0.01	1.37	16 25 28.02	0.64
	α Herculis . . .	33	9.8	11.8	13.2	22.9	24.0	25.3	26.3	27.4	37.4	38.6	40.8	8 25.23	0.01	1.35	17 8 26.59	10.66
	α Ophiuchi . . .	34	20.3	22.4	23.7	33.3	34.4	35.6	36.9	37.9	47.7	49.0	51.3	28 35.68	0.01	1.34	17 28 37.03	10.83
	α Lyræ	35	58.6	1.1	2.8	14.7	16.0	17.8	19.1	20.5	32.8	34.5	37.0	32 17.72	0.01	1.30	18 32 19.03	7.16
12	Sun I	36	55.2	57.6	58.8	8.8	9.8	11.2	12.5	13.6	24.1	25.5	27.7	33 11.35	0.01	1.27	19 33 12.63	. .
	Sun II	37	16.0	18.2	19.7	29.7	30.8	32.1	33.4	34.5	44.9	45.9	48.2	35 32.13	0.01	1.27	19 35 33.41	. .
	67 Ceti	38	57.1	59.2	0.3	10.0	10.9	12.2	13.3	14.4	24.1	25.4	27.4	10 12.21	0.01	1.05	2 10 13.27	13.29
	Weisse 209 . . .	39	51.0	53.1	54.3	4.0	5.1	6.4	7.7	8.7	18.6	19.8	21.9	14 6.42	0.00	1.05	2 14 7.47	14.46
	Lacaille 726 . .	40	56.9	59.1	0.4	11.1	12.3	13.6	14.9	16.0	26.8	28.2	30.3	18 13.60	0.03	1.05	2 18 14.68	11.89
	ξ^2 Ceti	41	41.3	43.2	44.6	54.0	55.0	56.2	57.4	58.4	8.2	9.4	11.5	20 56.29	0.00	1.05	2 20 57.34	14.17
	B. A. C. 774 . .	42	50.4	52.7	53.8	4.4	5.5	6.9	8.3	9.3	20.1	21.4	23.6	24 6.95	0.03	1.04	2 24 8.02	11.92
	B. A. C. 790 . .	43	36.4	38.6	40.0	50.9	52.0	53.4	54.8	56.0	6.9	8.3	10.5	27 53.44	+ 0.03	1.04	2 27 54.51	11.67
	Weisse 603 . . .	†44	12.6	14.5	15.8	. .	. .	. .	. .	. .	40.0	41.2	43.2	35 27.88	— 0.04	1.04	2 35 28.88	14.64
	Weisse 615 . . .	45	5.1	7.1	8.4	18.2	19.3	20.5	21.7	22.8	32.7	33.8	35.9	36 20.50	0.00	1.04	2 36 21.54	14.65
	Weisse 694 . . .	†46	. .	. .	. .	56.0	57.0	58.2	59.3	0.6	10.4	11.5	13.5	41 3.31	5.07	1.04	2 40 59.28	14.67
	Weisse 728 . . .	47	. .	. .	. .	58.6	59.7	1.0	2.2	3.2	13.0	14.3	16.4	43 6.05	— 5.08	1.03	2 43 2.00	14.73
	Weisse 746 . . .	48	47.8	49.8	51.1	0.9	1.9	3.2	4.4	5.4	15.4	16.6	18.6	44 3.19	0.00	1.03	2 44 4.22	14.74
	Weisse 841 . . .	49	29.9	32.0	33.3	43.2	44.2	45.4	46.5	47.7	57.6	58.9	0.9	48 45.42	0.00	+ 1.03	2 48 46.45	— 14.82

3. Very unsteady.
4. Unsteady; limb badly defined.
7. Badly defined.
22. Faint.
32. Unsteady.
44. Faint.
46. Faint; through clouds.

s.
January 10–11, 16h. to 23h. n. = + 0.05.
11, 1h. to 5h. — 0.02.
11–12, 16h. to 20h. 0.00.
12, 2h. to 4h. — 0.04.
4h. to 7h. — 0.08.

r.
January 12, 4h. Image east 0.06. Clamp east.
Image west 0.08. Clamp west.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 11, 23.1	+ 1.70	— 0.028	+ 0.007
12, 0.7	+ 1.10	— 0.033	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	h. m.	m. s.	s.	h. m. s.	s.
1864. Jan. 12 Y.	4 Eridani	1	4.9	7.1	8.4	18.8	20.0	21.3	22.5	23.7	34.4	35.6	37.8	51 21.32	+ 0.03	+ 1.03	2 51 22.38	— 11.97
	Weisse 976 . . .	2	48.5	50.5	51.8	1.5	2.5	3.7	5.0	6.0	16.0	17.0	19.3	56 3.80	0.00	1.03	2 56 4.83	14.94
	Vesta	3	21.9	23.9	25.2	34.8	35.8	36.9	38.3	39.3	49.2	50.3	52.6	3 37.11	0.00	1.02	3 3 38.13	. .
	Lacaille 1010 . .	4	17.9	20.1	21.6	32.4	33.5	34.9	36.3	37.4	48.4	49.7	52.0	7 34.93	+ 0.03	1.02	3 7 35.98	11.63
	Weisse 173 . . .	5	38.0	40.2	41.3	51.2	52.2	53.5	54.6	55.8	5.6	6.9	9.0	10 53.48	0.00	1.02	3 10 54.50	15.14
	B. A. C. 1061 . .	6	. .	. .	. .	. .	. .	. .	. .	. .	35.0	52.5	23.0	25 56.83	— 3 21.44	1.01	3 22 36.40	— 94.74
	B. A. C. 5140, S. P.	†7	. .	. .	. .	53.0	27.0	56.5	25.0	59.0	. .	. .	. .	21 56.10	0.36	1.01	15 21 56.75	+ 123.82
	η Tauri	8	9.2	11.3	12.6	23.0	24.1	25.3	26.7	27.8	38.2	39.5	41.6	39 25.39	0.01	1.00	3 39 26.38	— 16.32
	B A. C. 1206 . .	†9	9.2	11.0	12.4	22.6	23.6	24.8	25.9	27.0	37.0	38.4	40.3	45 24.75	0.01	1.00	3 45 25.74	15.67
	Weisse (2) 248 . .	10	16.6	18.8	20.1	30.1	31.1	32.4	33.5	34.6	44.9	46.0	48.3	12 32.40	— 0.02	0.98	4 12 33.36	16.05
	Weisse (2) 348 . .	†11	. .	. .	. .	47.8	48.8	50.0	51.4	52.5	. .	. .	. .	16 50.10	+ 0.03	0.98	4 16 51.11	16.11
	Weisse (2) 376 . .	†12	. .	. .	. .	10.5	11.8	13.9	29.9	32.5	33.6	35.1	36.5	18 25.48	— 27.46	0.98	4 17 59.00	16.12
	Hebe	13	8.0	10.0	11.2	20.9	21.8	23.0	24.1	25.2	34.9	35.9	38.0	25 23.00	0.00	0.98	4 25 23.98	14.54
	Weisse (2) 637 . .	14	40.1	42.2	43.7	54.2	55.1	56.5	57.8	58.9	9.5	10.8	12.8	29 56.51	— 0.03	0.98	4 29 57.46	16.88
	μ Eridani	15	28.3	30.4	31.4	41.0	42.0	43.3	44.4	45.5	55.2	56.4	58.4	38 43.30	+ 0.01	0.97	4 38 44.28	14.02
	Uranus	16	20.7	22.8	24.2	34.5	35.5	36.9	38.2	39.2	49.9	51.2	53.3	24 36.95	— 0.03	0.94	5 24 37.86	. .
	O. Arg. N. 6031 .	17	4.9	10.6	14.1	40.0	42.8	46.0	49.8	52.4	19.0	22.3	27.8	29 46.34	0.19	0.94	5 29 46.34	31.55
	O. Arg. N. 6052 .	18	. .	. .	. .	47.5	50.3	. .	56.6	59.7	. .	. .	. .	30 53.52	0.05	0.94	5 30 54.41	31.56
	O. Arg. N. 6159 .	19	43.4	49.5	53.2	23.0	26.3	29.8	33.8	36.9	6.8	10.3	16.6	36 29.87	0.21	0.94	5 36 30.60	34.17
	α Orionis	20	34.8	36.8	38.0	47.7	48.7	49.9	51.2	52.2	1.9	3.1	5.1	47 49.95	0.00	0.93	5 47 50.88	15.32
	O. Arg. N. 6390 .	21	11.0	17.1	21.7	52.8	56.6	0.1	3.8	7.0	38.9	43.0	49.8	52 0.16	0.23	0.93	5 52 0.86	35.62
	(* 116) W. . . .	22	28.5	35.6	40.7	14.4	17.4	22.0	26.3	30.0	4.2	8.2	15.4	58 22.06	0.25	0.93	5 58 22.74	37.46
	Lalande 11684 . .	23	11.6	13.9	15.1	25.7	26.8	28.3	29.5	30.6	41.4	42.6	44.8	2 28.21	0.03	0.92	6 2 29.10	17.56
	Lalande 11714 . .	24	. .	. .	. .	17.4	18.5	19.8	21.0	22.2	33.1	34.5	36.8	3 25.41	5.54	0.92	6 3 20.79	17.56
	Weisse (2) 193 . .	25	. .	. .	. .	43.1	44.5	46.0	47.5	49.0	1.6	3.4	6.1	7 52.65	— 6.62	0.92	6 7 46.95	20.02
	δ Ursæ Minoris, S. P.	26	. .	. .	. .	22.5	4.0	42.5	24.0	5.0	. .	. .	. .	15 43.60	+ 0.43	0.92	. . . .	. .
	γ Geminorum . . .	27	37.4	39.4	40.7	50.7	51.7	52.9	54.1	55.1	5.2	6.6	8.7	29 52.95	— 0.02	0.91	6 29 53.84	16.39
	51 Cephei	28	. .	. .	. .	30.5	50.0	17.5	42.5	5.0	. .	. .	. .	36 17.10	— 0.53	+ 0.91	6 36 17.48	158.34
13	Venus II . . .	29	53.2	55.3	56.6	6.7	7.8	8.9	10.1	11.5	21.7	23.0	25.0	35 9.08	0.00	— 0.64	16 35 8.44	0.64
	α Lyræ	30	0.6	3.2	4.8	17.0	18.2	19.8	21.3	22.6	35.0	36.4	39.0	32 19.81	+ 0.02	0.74	18 32 19.09	7.19
	β Lyræ	31	45.6	47.9	49.5	0.9	2.0	3.4	4.9	6.0	17.6	19.0	21.5	45 3.48	0.01	0.75	18 45 2.74	8.08
14	Sun I	32	35.8	37.8	39.1	49.4	50.5	51.8	53.0	54.1	4.7	6.0	8.2	41 51.85	0.00	0.79	19 41 51.06	. .
	Sun II	33	56.1	58.1	59.4	9.8	10.9	12.1	13.4	14.6	. .	. .	. .	44 6.80	+ 5.37	0.79	19 44 11.38	. .
	β Cephei	34	. .	. .	. .	45.2	47.7	51.9	55.5	58.4	26.6	30.1	36.0	27 6.42	— 14.39	0.88	21 26 51.15	0.90
	Moon I	†35	41.2	43.2	44.6	54.4	55.4	56.6	57.8	58.8	8.8	10.0	12.3	33 56.65	+ 0.01	1.03	0 33 55.63	. .
	ε Piscium	36	40.0	42.0	43.4	53.0	54.0	55.2	56.4	57.5	7.1	8.3	10.4	55 55.21	0.01	1.05	0 55 54.17	13.35
	Polaris	†37	26.0	46.5	37.0	. .	. .	32.0	22.0	4.0	. .	. .	. .	5 27.92	+ 4 7.84	1.06	. . . .	92.15
	θ Ceti	38	0.3	2.4	3.7	13.3	14.3	15.5	16.7	17.7	27.4	28.7	30.7	17 15.52	0.00	1.07	1 17 14.45	12.87
	η Piscium	†39	37.7	39.0	40.3	41.5	44.0	. .	46.0	48.5	49.8	51.2	52.4	24 15.04	— 0.24	1.07	1 24 13.73	13.94
	* — 27° 10′ . .	†40	10.9	13.2	14.7	25.2	26.2	27.4	28.6	30.0	40.9	42.3	44.7	49 27.65	0.00	1.09	1 49 26.56	11.93
	* — 23° 34′ . .	41	24.8	27.0	28.2	. .	. .	. .	. .	. .	54.1	55.5	57.5	52 41.18	— 0.04	1.10	1 52 40.04	12.14
	* — 23° 34′ . .	42	. .	. .	. .	39.2	40.2	41.5	42.9	44.0	. .	. .	. .	52 41.56	+ 0.05	1.10	1 52 40.51	12.14
	* — 18° 10′ . .	43	11.7	13.8	15.1	25.2	26.2	27.4	28.7	29.8	40.0	41.1	43.4	57 27.49	0.00	1.10	1 57 26.39	12.47
	67 Ceti	44	59.4	1.4	2.5	12.2	13.1	14.3	15.6	16.6	26.4	27.6	29.5	10 14.42	0.00	1.11	2 10 13.31	13.18
	Lacaille 726 . .	45	. .	. .	. .	. .	. .	. .	49.4	52.2	53.5	54.9	56.4	18 53.28	— 37.59	1.12	2 18 14.57	11.86
	Lacaille 750 . .	46	37.5	39.5	41.0	51.3	52.5	53.7	55.0	56.1	6.7	8.2	10.1	22 53.78	0.00	1.12	2 22 52.66	12.04
	O. Arg. S. 1630 .	47	. .	. .	. .	44.5	45.7	48.0	5.2	8.0	9.2	10.5	11.8	27 0.36	— 29.35	1.13	2 26 29.88	11.74
	O. Arg. S. 1655 .	48	28.1	30.1	31.4	41.3	42.3	43.7	44.9	46.0	56.2	57.4	59.6	28 43.73	0.00	1.13	2 28 42.60	12.47
	γ Ceti	†49	2.9	5.0	6.1	15.6	16.6	17.8	19.0	20.2	29.8	30.9	33.1	36 17.91	+ 0.01	— 1.13	2 36 16.79	— 13.87

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 14, 23.7	+ 0.99	— 0.049	+ 0.007

7. Faint; through clouds.
9. Faint.
11–12. Faint.
35. Steady; through thin clouds.
37. Under clouds.
39. Through clouds.
40. Faint.
49. Cloudy.

January 13–14, n. = + 0.02 s.
15–16, 16h. to 20h. + 0.07.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 15	Moon I	1	39.2	41.2	42.4	52.5	53.4	54.5	55.7	57.0	7.3	8.5	10.4	27 54.74	+ 0.01	— 2.49	1 27 52.26	. .
R.	ν Piscium	2	10.0	11.9	13.2	22.9	23.8	24.9	26.0	27.1	36.8	38.0	40.0	34 24.96	0.01	2.48	. . . . .	— 13.56
	ο Piscium	†3	1.5	3.5	4.6	14.3	15.3	16.5	17.6	18.7	28.6	29.6	31.8	38 16.55	+ 0.01	2.48	. . . . .	13.81
Y.	Venus II	4	41.3	43.3	44.7	55.0	55.9	57.2	58.5	59.5	9.8	11.0	13.3	44 57.23	— 0.02	3.23	16 44 53.98	0.63
	α Herculis	5	14.4	16.5	17.7	27.6	28.6	29.8	31.0	32.1	41.9	43.2	45.3	8 29.83	+ 0.02	3.25	17 8 26.60	10.75
	α Ophiuchi	6	24.9	27.0	28.3	38.0	39.0	40.3	41.5	42.6	52.5	53.7	55.8	28 40.33	0.02	3.26	17 28 37.09	10.91
	δ Ursæ Minoris	7	35.5	9.0	30.5	9.0	25.0	45.5	5.0	23.5	6.5	27.5	1.0	15 47.09	1.30	3.30	. . . . .	. .
	α Lyræ	8	3.2	5.6	7.4	19.5	20.9	22.4	24.0	25.3	37.5	39.0	41.6	32 22.40	0.06	3.31	18 32 19.15	7.22
	β Lyræ	9	48.2	50.6	52.1	3.5	4.6	6.0	7.4	8.8	20.3	21.6	24.0	45 6.10	0.05	3.32	18 45 2.83	8.11
R.	α Aquilæ	10	56.7	58.8	0.0	9.5	10.6	11.8	12.9	14.0	23.8	25.0	27.1	44 11.84	+ 0.02	3.36	19 44 8.50	11.40
16	Sun I	11	14.8	16.7	18.0	28.3	29.4	30.5	31.9	33.0	43.4	44.7	47.0	50 30.70	— 0.02	3.36	19 50 27.32	. .
	Sun II	12	34.5	36.7	38.4	48.4	49.6	50.7	51.9	53.0	3.5	4.7	6.9	52 50.75	— 0.02	3.37	19 52 47.36	. .
R.	β Cephei	13	10.9	16.6	20.5	48.3	51.0	54.5	58.0	1.0	29.0	32.5	38.4	26 54.61	+ 0.02	3.43	21 26 51.20	0.84
	ε Pegasi	14	18.7	20.5	21.8	31.5	32.4	33.6	34.8	35.9	45.7	47.0	49.0	37 33.72	0.01	3.44	21 37 30.29	11.70
	α Piscis Australis	†15	54.2	56.4	57.6	8.7	9.8	11.3	. .	13.7	24.8	26.6	28.6	50 11.17	0.14	3.49	22 50 7.82:	13.24
	α Pegasi	16	47.7	49.6	50.8	0.7	1.7	2.9	4.2	5.3	15.2	16.4	18.6	58 3.01	0.01	3.50	22 57 59.62	12.19
Y.	ξ¹ Ceti	17	37.5	39.5	40.8	50.5	51.4	52.6	53.8	54.9	4.6	5.8	7.9	5 52.66	0.01	3.63	2 5 49.04	13.99
	67 Ceti	18	1.8	3.8	5.1	14.5	15.6	16.7	18.0	19.0	28.8	30.0	32.0	10 16.85	0.01	3.65	2 10 13.21	13.15
	Moon I	†19	38.2	40.3	41.4	51.7	52.7	54.0	55.2	56.3	6.6	7.8	9.9	21 54.01	0.01	3.65	2 21 50.37	. .
	Lacaille 787	20	12.4	14.5	15.8	26.1	27.2	28.4	29.8	30.9	41.3	42.6	44.8	28 28.53	0.01	3.64	2 28 24.90	12.10
	Lacaille 802	21	57.5	0.0	1.3	12.3	13.5	14.8	16.2	17.3	28.4	29.9	32.1	31 14.85	0.01	3.64	2 31 11.22	11.52
	Weisse 603	22	17.0	19.0	20.3	30.0	31.0	32.3	33.5	34.7	44.6	45.7	47.6	35 32.34	0.01	3.64	2 35 28.71	14.59
	Weisse 615	23	9.7	11.8	13.2	22.9	23.9	25.1	26.3	27.4	37.3	38.6	40.5	36 25.15	+ 0.01	3.64	2 36 21.52	14.60
	B. A. C. 854	†24	. .	. .	.	29.8	31.2	33.2	50.4	53.0	54.3	55.8	57.3	38 45.62	— 28.94	3.64	2 38 13.04	11.80
	π Arietis	25	32.0	34.1	35.4	45.4	46.4	47.6	49.0	50.0	0.0	1.3	3.4	41 47.69	+ 0.01	3.64	2 41 44.06	14.98
	ρ³ Arietis	26	35.4	37.6	38.6	48.7	49.7	51.1	52.3	53.3	3.5	4.7	6.9	48 51.07	0.01	3.64	2 48 47.44	15.10
	ε Arietis	27	15.8	17.9	19.2	29.4	30.5	31.7	33.0	34.2	44.6	45.7	47.9	51 31.81	0.01	3.64	2 51 28.18	15.42
	B. A. C. 9541	28	12.3	14.4	15.7	26.2	27.4	28.6	29.9	31.1	41.6	43.0	45.2	56 28.67	0.01	3.64	2 56 25.04	11.92
	53 Arietis	29	36.2	38.2	39.6	49.5	50.5	51.8	53.1	54.1	4.4	5.5	7.7	59 51.87	0.01	3.64	2 59 48.24	15.22
	δ Arietis	30	41.1	43.1	44.4	54.5	55.6	56.8	58.0	59.1	9.4	10.6	12.8	3 56.86	0.01	3.64	3 3 53.23	15.47
	Melpomene	31	31.5	33.5	34.7	44.4	45.4	46.6	47.6	48.7	58.2	59.3	1.4	9 46.48	0.01	3.64	3 9 42.85	. .
	B. A. C. 1046	32	43.4	45.7	47.1	57.8	58.8	0.1	1.5	2.7	13.5	14.7	17.1	15 0.22	0.01	3.64	3 14 56.59	11.64
	Lacaille 1127	33	49.5	51.9	53.4	4.9	6.0	7.4	8.8	10.2	21.8	23.3	25.7	26 7.54	0.01	3.64	3 26 3.91	10.87
	B. A. C. 1119	34	34.3	. .	37.7	47.5	48.6	49.8	51.1	52.2	2.4	. .	5.5	31 49.90	0.01	3.64	3 31 46.27	15.43
	O. Arg. S. 2468	35	1.0	3.2	4.4	14.9	16.0	17.4	18.6	19.8	30.4	31.6	33.8	36 17.37	0.01	3.64	3 36 13.74	11.92
	Weisse (2) 878	36	41.7	43.7	45.0	54.9	55.9	57.2	58.4	59.6	9.5	10.8	12.8	39 57.23	0.01	3.64	3 39 53.60	15.51
	O. Arg. S. 2556	37	25.6	27.7	29.1	39.4	40.4	41.7	42.9	44.0	54.4	55.7	58.0	42 41.72	0.01	3.64	3 42 38.09	12.15
	B. A. C. 1206	38	13.7	15.7	17.0	26.9	27.9	29.2	30.5	31.4	41.5	42.7	44.9	45 29.22	0.01	3.64	3 45 25.59	15.64
	Weisse (2) 1015	39	41.1	43.3	44.6	54.5	55.5	56.8	58.0	59.0	9.3	10.4	12.6	46 56.83	0.01	3.64	3 46 53.20	15.65
	Lacaille 1284	40	41.8	44.0	45.4	56.0	57.0	58.5	59.7	0.9	11.6	13.0	15.2	49 58.46	+ 0.01	3.64	3 49 54.83	11.65
	O. Arg. S. 2666	41	30.2	31.7	33.0	34.5	36.9	.	44.2	46.8	48.1	49.5	50.9	50 10.58	— 0.25	3.64	3 50 7.19	11.65
	O. Arg. S. 2761	42	54.8	57.0	58.3	9.1	10.2	11.5	12.9	14.0	25.1	26.5	28.6	57 11.64	+ 0.01	3.64	3 57 8.01	11.48
	Weisse (2) 1261	43	46.0	48.1	49.3	59.3	0.3	1.5	2.8	3.9	14.2	15.2	17.4	59 1.64	+ 0.01	3.64	3 58 58.01	15.79
	Weisse (2) 1	44	5.5	7.6	9.0	19.0	20.0	21.3	22.4	23.6	33.6	34.9	37.1	2 21.27	— 0.01	3.64	4 2 17.62	15.87
	Weisse (2) 65	45	39.2	41.3	42.6	52.5	53.6	54.9	56.0	57.2	7.2	8.5	10.5	4 54.86	— 0.01	3.64	4 4 51.21	15.86
	O. Arg. S. 2922	46	27.6	29.8	31.2	42.2	43.4	44.7	46.0	47.4	58.6	0.0	2.3	8 44.84	+ 0.03	3.64	4 8 41.23	11.19
	O. Arg. S. 2930	47	30.3	32.6	34.0	45.2	46.3	47.7	49.0	50.2	1.5	2.7	5.1	9 47.69	+ 0.03	3.64	4 9 44.08	11.19
	Weisse (2) 348	48	38.8	40.8	42.2	52.4	53.4	54.5	55.8	57.0	7.1	8.4	10.5	16 54.63	— 0.01	3.64	4 16 50.98	16.07
	Lacaille 1459	49	49.8	52.0	53.4	4.5	5.6	7.0	8.4	9.5	20.7	22.0	24.4	22 7.03	+ 0.03	3.64	4 22 3.42	— 11.28
	Hebe	50	3.4	5.4	6.7	16.2	17.2	18.5	19.7	20.7	30.3	31.6	33.5	25 18.47	+ 0.00	— 3.64	4 25 14.83	. .

3. Through dense clouds.
15. Very faint and unsteady.
19. Steady.
24. Duplex; northward and brighter.

January 16, 21h. to 4h. n. = 0.00 s.
4h. to 7h. — 0.04.

January 16, 6h. 30m. Image east 0.06 r. Clamp east.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 15, 1.6	— 2.48	— 0.049	+ 0.007
19.5	3.35	— 0.043	. .
16, 4.2	— 3.64	+ 0.003	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 16	Lacaille 1522 . .	1	25.4	27.6	28.9	39.5	40.4	41.8	43.1	44.3	54.8	56.1	58.4	29 41.85	+ 0.03	— 3.64	4 29 38.24	— 11.82
Y.	O. Arg. S. 3437 .	2	. .	. .	. .	21.4	22.8	25.0	42.2	44.9	46.3	47.8	49.2	45 37.45	— 29.26	3.64	4 45 4.55	11.55
	* — 30° 53′ . .	3	11.5	13.9	15.4	26.5	27.5	29.0	30.3	31.7	42.8	44.2	46.6	47 29.04	+ 0.03	3.64	4 47 25.43	11.13
	O. Arg. S. 3506 .	4	45.5	47.6	48.9	59.3	0.4	1.7	2.9	4.0	14.8	16.0	18.3	50 1.76	+ 0.03	3.64	4 49 58.15	11.99
	O. Arg. S. 3516 .	5	. .	. .	. .	2.5	3.8	6.0	22.4	25.3	26.5	27.8	29.2	51 17.94	— 28.34	3.64	4 50 45.96	11.98
	* — 28° 38′ . .	6	34.4	36.6	38.1	49.0	50.0	51.4	52.8	53.9	5.0	6.2	8.6	53 51.45	+ 0.03	3.64	4 53 47.84	11.41
	* — 31° 32′ . .	7	58.5	0.9	2.2	13.5	14.6	16.0	17.5	18.7	30.0	31.3	33.8	56 16.09	+ 0.03	3.64	4 56 12.48	11.06
	* — 31° 32′ . .	8	. .	. .	. .	41.4	42.8	45.1	3.0	5.9	7.3	8.7	10.3	56 58.06	— 30.49	3.64	4 56 23.93	11.06
	ε Leporis	9	31.7	33.8	35.0	45.4	46.5	47.8	49.0	50.2	0.8	2.0	4.2	59 47.85	+ 0.02	3.64	4 59 44.23	12.11
	Weisse (2) 49 . .	10	43.4	45.7	46.9	58.2	59.2	0.7	2.0	3.3	14.4	15.7	18.0	4 0.68	— 0.02	3.64	5 3 57.02	17.92
	Weisse (2) 111 . .	11	21.7	24.1	25.6	36.5	37.6	39.0	40.4	41.6	52.8	54.0	56.4	5 39.06	— 0.02	3.64	5 5 35.40	17.93
	Lacaille 1770 . .	12	37.7	40.0	41.5	52.3	53.5	54.8	56.0	57.3	8.4	9.6	12.0	9 54.83	+ 0.03	3.64	5 9 51.22	11.46
	* — 25° 23′ . .	13	8.2	9.5	10.9	12.2	14.9	. .	21.4	24.0	25.4	26.8	28.3	12 48.16	— 0.23	3.64	5 12 44.29	11.82
	* — 25° 25′ . .	14	32.3	34.5	35.9	46.3	47.5	48.9	50.2	51.2	11.9	13.2	15.4	12 48.85	+ 0.03	3.64	5 12 45.24	11.82
	Lacaille 1806 . .	15	15.3	17.6	19.0	30.0	31.1	32.6	33.9	35.0	46.1	47.4	49.7	15 32.52	0.03	3.64	5 15 28.91	11.36
	B. A. C. 1708 . .	16	35.2	37.3	38.4	48.2	49.2	50.4	51.7	52.7	2.6	3.8	5.7	20 50.47	+ 0.02	3.64	5 20 46.85	13.26
	Uranus I	17	26.6	28.0	29.3	30.8	33.1	. .	38.6	41.2	42.6	44.0	45.4	24 5.96	— 0.27	3.64	5 24 2.05	. .
	Uranus II	18	49.8	52.0	53.3	3.8	4.7	5.9	7.3	8.4	19.0	20.4	22.5	24 6.10	— 0.01	3.64	5 24 2.47	. .
	ε Orionis	†19	9.7	11.8	13.0	22.4	23.4	24.6	25.9	26.8	36.4	37.6	39.5	29 24.65	+ 0.01	3.64	5 29 21.02	14.35
	α Columbæ . . .	20	31.2	33.6	35.1	46.6	47.8	49.3	50.7	52.1	3.6	5.1	7.5	34 49.33	+ 0.04	3.64	5 34 45.73	10.80
	O. Arg. S. 4237 .	21	. .	. .	. .	0.6	1.9	3.1	4.5	5.7	16.7	18.0	20.1	37 8.82	— 5.57	3.64	5 36 59.61	11.60
	O. Arg. S. 4263 .	22	38.0	40.1	41.5	52.4	53.5	54.7	56.0	57.2	8.3	9.5	11.8	38 54.82	+ 0.03	3.64	5 38 51.21	11.63
	O. Arg. S. 4294 .	23	56.0	58.1	59.6	10.4	11.4	12.7	14.0	15.2	26.2	27.5	29.9	40 12.82	+ 0.03	3.64	5 40 9.21	11.64
	* (94 W.) . . .	†24	46.2	48.6	49.8	. .	. .	. .	. .	. .	16.3	17.5	19.7	44 3.02	— 0.05	3.64	5 43 59.33	17.47
	Lacaille 2033 . .	25	. .	. .	. .	47.5	48.6	50.1	51.5	52.7	3.7	5.0	7.4	46 55.81	— 5.66	3.64	5 46 46.51	11.43
	O. Arg. S. 4499 .	26	46.7	49.0	50.4	1.4	2.4	3.7	5.2	6.3	17.4	18.8	21.1	53 3.85	+ 0.03	3.63	5 53 0.25	11.49
	O. Arg. S. 4534 .	27	55.8	58.2	59.5	10.1	11.3	12.7	14.1	15.3	26.1	27.5	29.8	55 12.76	0.03	3.63	5 55 9.16	11.65
	ν Orionis	†28	39.0	41.2	42.5	52.2	53.2	54.5	55.7	56.6	6.8	8.0	9.9	59 54.51	0.00	3.62	5 59 50.89	16.16
	δ Ursæ Minoris, S. P.	29	0.0	28.0	7.0	. .	11.0	49.5	29.0	. .	28.0	8.3	35.0	15 48.44	0.47	— 3.62	. . . .	. .
17	Moon I	†30	54.2	56.4	57.9	8.2	9.2	10.4	11.6	12.8	23.2	24.6	26.8	16 10.48	. .	. .	. . . .	. .
20	β Cephei	31	53.0	58.8	2.2	29.8	32.8	36.2	39.9	42.8	11.2	14.4	20.3	26 36.49	0.21	+14.27	. . .	0.73
R.	ε Pegasi	32	0.8	2.8	4.0	13.7	14.7	15.9	17.1	18.1	27.8	29.0	31.1	37 15.91	+ 0.02	14.28	21 37 30.21	11.69
	α Piscis Australis .	33	. .	38.5	39.9	50.7	51.9	53.3	54.8	55.9	7.1	8.5	. .	49 53.40	— 0.02	14.34	22 50 7.72	13.21
	α Pegasi	34	29.8	31.7	33.0	42.8	43.8	45.1	46.3	47.4	57.4	58.5	0.6	57 45.13	+ 0.03	14.35	22 57 59.51	12.16
	Polaris	35	. .	. .	. .	. .	. .	. .	44.0	21.3	13.0	5.5	58.0	32 4.40	—22 49.12	14.47	. . . .	87.58
	α Ceti	†36	42.5	44.4	45.7	9.5	11.5	12.6	27.6	30.0	31.3	32.4	33.9	55 12.85	15.54	14.54	2 55 11.85	14.01
	B. A. C. 954 . .	†37	. .	. .	. .	23.5	24.8	26.9	43.7	46.3	47.6	49.1	50.5	56 39.05	— 28.53	14.54	2 56 25.06	11.86
	δ Arietis	†38	. .	. .	. .	36.2	37.3	38.6	39.8	41.0	. .	. .	. .	3 38.58	+ 0.07	14.54	3 3 53.19	15.42
21	Sun I	39	13.7	15.8	17.2	27.3	28.3	29.4	30.6	31.8	42.2	43.4	45.6	11 29.57	— 0.04	. .	. . . . .	. .
Y.	Sun II	40	32.5	34.6	35.9	46.3	47.4	48.4	49.7	50.9	1.0	2.2	4.5	13 48.49	— 0.04	. .	. . . .	. .
	Moon I	†41	36.0	37.9	39.2	49.6	50.7	52.0	53.3	54.3	4.9	6.2	8.2	50 52.02	+ 0.05	15.33	6 51 7.40	. .
R.	α Lyræ	42	44.4	47.0	48.5	0.5	1.9	3.3	5.0	6.3	18.8	20.4	22.8	32 3.55	0.08	15.59	18 32 19.22	7.32
	α Aquilæ	43	38.0	39.9	40.2	50.8	51.9	53.0	54.1	55.1	5.0	6.1	8.2	43 52.94	+ 0.02	15.61	19 44 8.57	11.46
22	Sun I	†44	26.2	28.3	29.5	39.8	40.7	42.0	43.2	44.2	54.6	55.7	57.7	15 41.99	— 0.03	15.63	20 15 57.59	. .
	Sun II	†45	44.9	47.0	48.5	58.6	59.5	0.8	2.1	3.2	13.7	15.0	17.0	18 0.94	— 0.03	15.63	20 18 16.54	. .
	β Cephei	46	51.3	57.2	0.8	28.6	31.5	34.8	38.2	41.7	9.8	13.3	19.2	26 35.13	+ 0.27	15.65	21 26 51.05	0.70
	α Pegasi	47	28.4	30.3	31.7	41.4	42.5	43.7	44.9	46.0	56.0	57.1	59.3	57 43.75	0.03	15.68	22 57 59.46	12.14
Y.	α Andromedæ . .	48	49.5	51.9	53.3	4.1	5.2	6.5	7.9	9.0	20.0	21.4	23.7	1 6.59	0.06	. .	. . . .	12.92
	Polaris	49	45.5	42.0	30.5	19.0	54.0	. .	. .	. .	. .	. .	. .	46 38.20	+22 34.64	+15.72	. . . .	— 85.78

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 20, 0.3	+ 14.41	+ 0.048	+ 0.007
21, 20.2	15.10	0.022	. .
22, 2.0	+ 15.74	+ 0.020	. .

19. Unsteady.
24. Faint; several stars in the field.
28. Unsteady.
30. Through clouds.
36–37. Through clouds.
38. Through dense clouds.
41. Through clouds.
44–45. Both limbs very badly defined.

s.
January 20, 21h. to 0h. n. = + 0.07.
1h. to 4h. 0.04.
21–22, 20h. to 2h. 0.09.
22, 3h. to 8h. 0.04.
17h. to 20h. + 0.12.

r.
January 22, 7h. 20m. Image east 0.03. Clamp east.

January 22. Melpomene too faint for observation through the fog; all the obs'ns made through clouds.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. Jan. 22 R.	Polaris	1	. .	. .	. .	. .	. .	. .	37.5	15.5	7.0	59.5	54.0	31 58.70	—22 47.06	+15.72	. . . . .	— 85.78
	ε Eridani	2	1.8	3.9	5.3	14.9	15.9	17.2	18.5	19.5	29.0	30.4	32.3	26 17.15	0.00	15.77	3 26 32.92	12.78
	10 Tauri	†3	27.0	28.8	30.0	39.6	40.6	41.7	43.0	44.1	53.7	54.9	57.0	29 41.85	+ 0.01	15.77	3 29 57.63	13.91
	Weisse 512 . . .	†4	35.6	37.9	39.3	49.8	50.8	52.1	53.3	54.6	5.3	6.6	8.9	23 52.20	0.03	15.79	4 24 8.02	16.86
	Uranus	†5	41.6	43.7	45.2	55.5	56.6	57.9	59.3	0.6	10.9	12.2	14.3	22 57.98	0.02	15.81	5 23 13.81	. .
	α Canis Majoris . .	†6	40.0	42.2	43.5	53.5	54.5	55.7	56.9	58.0	8.0	9.4	11.4	38 55.74	0.00	15.83	6 39 11.57	12.88
	ζ Geminorum . . .	7	33.4	35.5	36.9	46.8	48.0	49.3	50.6	51.7	2.1	3.3	5.3	55 49.35	0.02	15.84	6 56 5.21	16.90
	τ Geminorum . . .	8	58.4	0.7	2.3	13.2	14.4	15.7	17.0	18.2	29.7	30.9	33.4	2 15.81	0.03	15.74	7 2 31.68	18.16
	δ Geminorum . . .	9	30.6	32.8	34.1	44.2	45.3	46.7	48.1	49.2	59.5	0.7	3.0	11 46.75	0.02	15.84	7 12 2.61	17.04
	Moon I	†10	31.3	33.3	34.6	44.7	45.7	47.0	48.3	49.3	59.8	1.0	3.1	41 47.10	+ 0.02	15.85	7 42 2.97	. .
	φ Geminorum . . .	11	. .	. .	. .	10.5	11.6	13.8	31.0	33.6	35.0	36.5	38.1	45 26.66	— 29.20	15.86	7 45 12.92	17.50
	5 Cancri	12	16.3	18.3	19.7	29.6	30.6	32.0	33.1	34.2	44.3	45.5	47.6	53 31.93	+ 0.02	15.86	7 53 47.81	16.30
	12 Cancri	13	37.5	39.7	40.9	50.6	51.8	53.0	54.1	55.1	5.3	6.8	8.6	0 53.04	+ 0.02	15.86	8 1 8.92	16.00
Y.	Venus II . . .	14	7.4	9.4	10.7	21.0	22.1	23.5	24.6	25.8	36.2	37.5	39.6	19 23.44	— 0.04	15.90	17 19 39.30	0.61
	α Ophiuchi . . .	15	6.0	8.0	9.3	19.0	19.9	21.2	22.4	23.6	33.4	34.6	36.6	28 21.27	+ 0.03	15.90	17 28 37.20	— 11.07
	δ Ursæ Minoris . .	16	. .	48.0	10.0	49.5	7.0	27.0	46.0	5.0	48.0	8.0	. .	15 27.61	2.33	15.92	. . . . .	+ 104.24
	α Lyræ	17	43.9	46.5	48.1	0.3	1.6	3.2	4.7	6.0	18.4	19.8	22.4	32 3.17	0.11	15.92	18 32 19.20	— 7.34
23	Sun I	18	38.4	40.3	41.7	51.9	52.9	54.0	55.2	56.4	6.7	8.0	10.1	19 54.15	0.02	15.96	20 20 10.13	. .
	Sun II	19	56.8	58.8	0.1	10.2	11.3	12.5	13.8	15.0	25.2	26.4	28.7	22 12.62	0.02	15.96	20 22 28.60	. .
	β Cephei	20	51.3	56.8	0.3	. .	31.1	34.9	38.6	. .	9.3	13.0	18.7	26 34.89	0.24	15.98	21 26 51.11	0.68
	ψ Pegasi	21	28.1	30.0	31.4	41.2	42.3	43.5	44.7	45.8	55.8	57.0	59.1	57 43.54	0.02	16.01	22 57 59.57	12.13
	Weisse 746 . . .	22	32.7	34.6	35.8	45.7	46.8	48.0	49.2	50.2	0.1	1.3	3.4	43 47.98	0.02	16.08	2 44 4.08	14.60
	Weisse 841 . . .	23	14.8	16.8	18.0	27.8	28.9	30.1	31.3	32.4	42.3	43.4	45.6	48 30.13	+ 0.02	16.08	2 48 46.23	14.68
	* — 27° 28′ . .	24	16.7	19.0	20.4	31.2	32.3	33.5	34.9	36.1	47.0	48.3	50.5	52 33.63	— 0.03	16.08	2 52 49.68	11.52
	α Ceti	25	40.7	42.7	43.9	53.6	54.6	55.8	56.9	57.9	7.6	8.8	10.8	54 55.75	+ 0.01	16.08	2 55 11.84	13.97
	* + 13° 44′ . .	26	25.0	26.1	28.4	38.2	39.2	40.4	41.6	42.7	52.7	53.9	56.0	57 40.38	+ 0.02	16.08	2 57 56.48	14.80
	* + 13° 44′ . .	27	. .	. .	. .	0.6	1.7	2.9	4.1	5.1	15.1	16.4	18.5	58 8.05	— 5.08	16.08	2 58 19.05	14.81
	Lacaille 988 . .	28	44.0	46.3	47.7	58.9	59.9	1.3	2.7	4.9	15.1	16.6	19.0	2 1.49	0.03	16.09	3 2 17.55	11.16
	Weisse 101 . . .	29	7.5	8.9	10.1	11.4	13.8	. .	15.4	17.7	19.0	20.2	21.7	6 44.57	0.23	16.09	3 7 0.43	14.80
	Vesta	30	18.9	20.2	21.6	22.9	25.2	. .	26.6	29.2	30.4	31.7	33.1	6 55.98	0.23	16.09	3 7 11.84	. .
	* + 12° 37′ . .	31	34.8	36.2	37.5	38.7	40.1	. .	42.6	45.1	46.3	47.8	49.0	7 11.81	— 0.23	16.09	3 7 27.67	14.80
	Weisse (2) 255 . .	32	56.9	59.0	0.3	10.2	11.2	12.4	13.6	14.7	24.7	25.9	28.0	12 12.45	+ 0.03	16.09	3 12 28.57	15.07
	O. Arg. S. 2311 .	†33	7.8	10.0	11.3	21.7	22.9	24.2	25.5	26.6	37.3	38.5	40.6	23 24.22	— 0.02	16.09	3 23 40.29	11.80
	Lacaille 1134 . .	34	50.4	52.7	54.0	5.2	6.3	7.8	10.2	11.4	21.6	22.9	25.2	28 7.97	— 0.03	16.09	3 28 24.03	11.06
	B. A. C. 1119 . .	35	14.6	16.7	18.0	27.8	28.9	30.2	31.4	32.4	42.5	43.7	46.8	31 30.27	+ 0.03	16.09	3 31 46.39	15.35
	Lacaille 1171 . .	36	. .	. .	. .	59.4	0.4	1.9	3.2	4.5	15.4	16.9	19.2	34 7.61	— 5.69	16.10	3 34 18.02	11.28
	Weisse (2) 878 . .	37	21.9	24.0	25.3	35.2	36.2	37.5	38.7	39.8	49.9	51.0	53.2	39 37.52	+ 0.03	16.10	3 39 53.65	15.44
	Weisse (2) 887 . .	38	. .	. .	. .	14.5	15.7	17.8	33.6	36.1	37.5	38.8	40.1	40 29.26	— 27.10	16.10	3 40 18.26	15.46
	B. A. C. 1206 . .	39	53.8	55.8	57.1	7.0	8.1	9.4	10.6	11.7	21.7	22.9	25.2	45 9.39	+ 0.03	16.10	3 45 25.52	15.56
	Weisse (2) 1015 .	40	21.5	23.5	24.8	34.7	35.8	37.1	38.4	39.4	49.5	50.6	52.9	46 37.11	+ 0.03	16.10	3 46 53.24	15.57
	γ Eridani	41	11.2	13.3	14.6	24.3	25.4	26.6	27.8	28.8	38.9	40.0	42.2	51 26.65	— 0.01	16.10	3 51 42.74	12.78
	B. A. C. 1250 . .	42	43.1	45.4	46.8	58.0	59.0	0.5	1.9	3.0	14.4	15.8	18.1	55 0.55	— 0.03	16.10	3 55 16.62	11.04
	Weisse (2) 1261 .	43	26.2	28.3	29.7	39.6	40.7	41.9	43.1	44.3	54.4	55.6	57.7	38 41.95	+ 0.03	16.10	3 38 58.08	15.72
	Weisse (2) 1 . .	44	45.8	47.7	49.0	59.2	0.1	1.4	2.6	3.7	13.8	15.1	17.3	2 1.43	0.03	16.10	4 2 17.56	15.79
	Weisse (2) 65 . .	45	19.3	21.5	22.6	32.6	33.6	34.9	36.0	37.3	47.4	48.6	50.8	4 34.96	+ 0.03	16.11	4 4 51.10	15.79
	* — 29° 10′ . . .	46	7.7	10.0	11.5	22.5	23.6	25.0	26.5	27.6	38.8	40.1	42.5	8 25.07	— 0.03	16.11	4 8 41.15	11.23
	* — 29° 10′ . . .	47	10.6	. .	14.3	25.3	26.5	27.8	29.3	30.4	41.7	. .	45.5	9 27.93	0.03	16.11	4 9 44.01	11.23
	Lacaille 1485 . .	48	0.6	3.0	4.3	15.3	16.4	17.8	19.0	20.3	31.4	32.8	35.0	24 17.81	0.03	16.11	4 24 33.89	11.23
	O. Arg. S. 3154 .	49	23.9	26.4	27.5	38.5	39.6	40.9	42.3	43.6	54.5	55.9	58.3	25 41.04	0.03	16.11	4 25 57.12	11.23
	Lacaille 1522 . .	50	5.6	7.8	9.2	19.6	20.7	21.9	23.2	24.4	35.1	36.4	38.6	29 22.05	— 0.02	+16.11	4 29 38.14	— 11.73

3. Stopped by clouds.
4. Clouds.
5. Through clouds.
6. Very unsteady.
10. Badly defined.
33. Saw Melpomene; too faint for observation.

January 23, 20h. to 7h. n. = + 0.07 s.
7h. to 10h. 0.00.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 23, 3.8	+ 16.10	+ 0.019	+ 0.007

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 23	* — 27° 31′ . . .	1	59.5	1.7	3.0	13.6	14.9	16.3	17.5	18.8	29.7	31.0	33.2	32 16.29	— 0.03	+16.11	4 32 32.37	— 11.43
	Lacaille 1549 . .	2	35.0	37.2	38.5	59.4	0.6	2.0	3.4	4.6	15.5	16.8	19.1	35 2.01	0.03	16.11	4 35 18.09	11.32
	O. Arg. S. 3326 .	3	3.4	5.5	6.7	17.2	18.3	19.7	20.9	22.0	32.6	33.9	36.1	37 19.66	0.02	16.12	4 37 35.76	11.84
Y.	O. Arg. S. 3360 .	4	45.4	47.5	48.9	59.8	1.0	2.5	3.8	5.0	16.0	17.2	19.6	40 2.43	0.03	16.12	4 40 18.52	11.28
	O. Arg. S. 3437 .	5	31.4	33.7	35.1	45.8	46.9	48.3	49.6	50.7	1.6	2.9	5.3	44 48.30	0.03	16.12	4 45 4.39	11.46
	* — 30° 55′ . . .	6	52.0	54.1	55.6	6.5	7.8	9.1	10.6	11.9	23.0	24.3	26.7	47 9.24	0.03	16.12	4 47 25.33	11.04
	O. Arg. S. 3506 .	7	25.6	27.9	29.2	39.5	40.6	42.0	43.2	44.4	54.9	56.2	58.3	49 41.98	0.03	16.12	4 49 58.07	11.91
	* — 28° 37′ . . .	8	14.7	16.7	18.1	29.1	30.2	31.6	32.9	34.0	45.0	46.5	48.8	53 31.60	0.03	16.12	4 53 47.69	11.33
	Lacaille 1693 . .	9	24.9	27.4	28.7	39.8	41.0	42.4	43.7	45.1	56.4	57.7	0.1	56 42.47	0.03	16.12	4 56 58.56	10.98
	ε Leporis	10	12.0	14.1	15.4	25.7	26.7	28.0	29.4	30.5	40.9	42.0	44.3	59 28.09	0.02	16.12	4 59 44.19	12.04
	O. Arg. S. 3720 .	11	23.0	25.3	26.5	37.2	38.3	39.5	40.8	41.9	52.8	54.0	56.3	3 39.60	0.03	16.12	5 3 55.69	11.71
	Lacaille 1747 . .	12	44.0	46.4	47.7	58.8	59.9	1.3	2.6	3.9	15.1	16.5	18.8	6 1.37	0.03	16.12	5 6 17.46	11.13
	Lacaille 1770 . .	13	18.0	. .	21.7	32.5	33.6	35.0	36.3	37.5	48.5	. .	52.2	9 35.03	0.03	16.12	5 9 51.12	11.38
	* — 25° 22′ . . .	14	48.3	49.9	51.1	52.5	55.1	. .	1.5	4.3	5.6	6.9	8.5	12 28.37	0.29	16.13	5 12 44.21	11.75
	* — 25° 44′ . . .	15	12.5	14.7	16.0	26.5	27.7	28.9	30.3	31.4	42.1	43.4	45.8	12 29.03	0.03	16.13	5 12 45.13	11.75
	O. Arg. S. 3884 .	16	. .	. .	. .	26.1	27.4	29.8	47.2	50.0	51.3	52.8	54.4	15 42.38	29.87	16.13	5 15 28.64	11.29
	Lacaille 1827 . .	17	. .	. .	. .	49.5	50.8	52.2	53.6	54.7	6.2	7.6	9.9	17 58.06	5.86	16.13	5 18 8.33	10.98
	* — 29° 27′ . .	18	12.7	14.2	15.6	17.0	19.7	. .	28.6	31.7	33.0	34.4	35.8	22 54.27	0.30	16.13	5 23 10.10	11.30
	* — 29° 27′ . .	19	42.7	45.0	46.4	57.4	58.6	59.9	1.2	2.5	13.5	14.9	17.3	22 59.95	0.03	16.13	5 23 16.05	11.30
	O. Arg. S. 4060 .	20	58.7	0.9	2.2	12.7	13.8	15.0	16.4	17.6	28.4	29.6	31.8	27 15.19	0.03	16.13	5 27 31.29	11.79
	α Columbæ . . .	21	11.3	13.9	15.2	26.8	27.9	29.4	30.7	32.0	43.7	45.1	47.7	34 29.43	0.04	16.13	5 34 45.52	10.73
	* — 27° 35′ . .	22	18.2	20.4	21.6	32.6	33.5	34.9	36.3	37.4	48.4	49.8	52.0	38 35.01	0.03	16.13	5 38 51.11	11.57
	O. Arg. S. 4263 .	23	36.2	38.4	39.8	50.5	51.6	53.0	54.3	55.5	6.5	7.7	9.9	39 53.04	0.03	16.13	5 40 9.14	11.58
	O. Arg. S. 4355 .	24	37.5	39.5	40.9	51.5	52.7	54.0	55.3	56.5	7.4	8.6	10.9	43 54.07	0.03	16.14	5 44 10.18	11.60
	α Orionis	25	19.6	21.7	23.0	32.6	33.6	34.8	36.0	37.0	46.7	47.9	50.0	47 34.81	0.02	16.14	5 47 50.97	15.29
	O. Arg. S. 4474 .	26	9.7	12.0	13.3	24.2	25.3	26.8	28.0	29.3	40.4	41.6	43.8	51 26.76	0.03	16.14	5 51 42.87	11.48
	O. Arg. S. 4534 .	27	35.9	38.3	39.6	50.3	51.5	52.8	54.2	55.3	6.1	7.4	9.8	54 52.81	0.03	16.14	5 55 8.92	11.60
	* — 28° 34′ . .	28	22.9	24.4	25.9	27.3	29.9	. .	38.4	41.0	42.3	43.7	45.2	59 4.10	0.30	16.14	5 59 19.94	11.53
	* — 28° 35′ . .	29	49.2	51.6	53.1	3.9	5.0	6.3	7.7	8.8	19.8	21.1	23.6	59 6.37	0.03	16.14	5 59 22.48	11.53
	Lacaille 2163 . .	30	49.9	52.0	53.5	4.7	5.8	7.1	8.6	9.8	21.1	22.4	24.9	4 7.25	0.03	16.14	6 4 23.36	11.26
	Lacaille 2189 . .	31	8.7	10.9	12.4	23.2	24.2	25.6	26.9	28.1	39.2	40.5	42.8	7 25.68	0.03	16.14	6 7 41.79	— 11.59
	δ Ursæ Minoris, S. P.	32	44.0	10.0	49.5	9.0	52.0	31.7	12.5	54.0	12.0	51.0	17.0	15 31.15	— 1.30	16.15	. . . .	+ 104.17
	Lacaille 3012 . .	33	45.4	47.5	48.8	59.3	0.3	1.6	2.9	4.2	14.7	15.9	18.2	45 1.71	+ 0.01	16.18	7 45 17.90	— 12.60
	O. Arg. N. 8459 .	34	18.7	21.8	23.6	37.6	38.9	40.7	42.4	43.8	58.0	59.8	2.8	49 40.74	0.01	16.18	7 49 56.93	20.74
	5 Cancri	35	15.8	17.8	19.2	29.0	30.1	31.3	32.6	33.7	43.8	45.0	47.1	53 31.40	+ 0.01	16.18	7 53 47.59	16.31
	λ Ursæ Minoris, S. P.	36	. .	. .	. .	27.0	35.0	33.0	30.0	34.0	. .	. .	. .	58 31.80	— 2.85	16.18	. . . .	308.05
	Lacaille 3248 . .	†37	36.1	38.3	39.9	51.3	52.3	53.8	55.1	56.5	7.9	9.2	11.7	11 53.83	+ 0.01	16.19	8 12 10.03	12.01
	Lacaille 3290 . .	38	47.5	49.8	51.3	2.6	3.6	5.1	6.5	7.6	18.8	20.2	22.7	17 5.06	0.01	16.19	8 17 21.26	12.18
	Lacaille 3325 . .	39	17.5	19.7	21.1	32.4	33.4	34.7	36.2	37.5	48.8	50.1	52.4	21 34.89	0.01	16.19	8 21 51.09	12.22
	η Cancri	40	20.8	22.9	24.3	34.5	35.4	36.7	38.0	39.2	49.5	50.8	53.0	24 36.83	0.01	16.19	8 24 53.03	16.54
	B. A. C. 2897 . .	41	. .	16.3	17.5	27.3	28.3	29.4	30.7	31.8	41.5	42.7	. .	29 29.50	0.01	16.19	8 29 45.70	15.56
	Moon II	42	50.7	52.8	54.0	4.0	5.1	6.3	7.6	8.7	18.7	20.1	22.2	33 6.38	0.01	16.19	8 33 22.58	. .
	ε Hydræ	43	5.6	7.5	8.7	18.4	19.3	20.5	21.8	22.8	32.5	33.7	35.7	39 20.59	0.01	16.19	8 39 36.79	15.23
	. Lacaille 3546 . .	44	19.9	22.2	23.5	34.7	35.8	37.2	38.6	39.7	51.0	52.3	54.7	43 37.24	0.01	16.19	8 43 53.44	12.50
	Lacaille 3582 . .	45	4.1	6.5	7.9	19.2	20.4	21.8	23.1	24.3	35.7	37.0	39.4	48 21.76	0.01	16.20	8 48 37.97	12.44
	α Cancri	46	33.8	35.7	37.1	46.8	47.9	49.1	50.2	51.3	1.3	2.4	4.5	50 49.10	0.01	16.20	8 51 5.31	15.64
	Lacaille 3636 . .	47	47.2	49.3	50.7	1.4	2.5	3.8	5.1	6.3	16.9	18.3	20.6	55 3.83	0.01	16.20	8 55 20.04	12.93
	κ Cancri	48	3.7	5.7	7.0	6.7	7.7	8.9	10.1	11.2	20.9	22.2	24.3	0 8.95	0.01	16.20	9 0 25.16	15.49
	Lacaille 3702 . .	49	39.7	42.1	43.5	54.5	55.6	57.0	58.3	59.6	10.6	12.0	14.4	3 57.03	0.01	16.20	9 4 13.24	12.74
	Lacaille 3725 . .	50	40.5	42.8	44.3	55.3	56.5	57.8	59.3	0.6	11.6	13.1	15.4	6 57.87	+ 0.01	+16.20	9 7 14.08	— 12.71

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 23, 3.8	+ 16.10	+ 0.019	+ 0.007

37. On fillet; remainder of the night's work on fillet.
January 23. Fine night; stars steady.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 23	Lacaille 3750 . .	1	24.2	26.4	27.8	39.4	40.4	41.8	43.3	44.6	55.9	57.3	59.7	9 41.89	+ 0.01	+16.20	9 9 58.10	— 12.58
Y.	* — 33° 31′ . .	2	34.0	36.4	37.9	49.4	50.6	52.0	53.4	54.7	6.2	7.8	10.1	12 52.05	+ 0.01	16.20	9 13 8.26	12.56
	Lacaille 3784 . .	3	. .	. .	. .	10.2	11.6	14.1	32.2	35.3	36.7	38.2	39.8	14 27.26	— 31.20	16.20	9 14 12.26	12.57
	α Hydræ	4	25.2	27.3	28.6	38.1	39.2	40.4	41.6	42.7	52.5	53.6	55.7	20 40.45	+ 0.01	16.21	9 20 56.67	14.20
24	α Cancri	†5	33.6	35.8	37.1	46.6	47.6	48.8	50.0	51.2	1.0	2.2	4.4	50 48.94	0.03	16.33	8 51 5.30	15.66
	κ Cancri	†6	53.7	55.7	56.9	6.5	7.6	8.8	10.1	11.2	20.8	22.1	24.0	0 8.85	0.03	16.33	9 0 25.21	15.51
	83 Cancri	†7	53.6	55.6	57.0	7.0	8.1	9.4	10.6	11.5	21.8	23.0	25.1	11 9.34	0.04	16.33	9 11 25.71	15.94
	Moon II	8	30.5	32.5	33.7	43.4	44.6	45.9	47.1	48.2	58.1	59.5	1.5	20 45.91	0.03	16.33	9 21 2.27	. .
	ξ Leonis	9	7.6	9.6	10.8	20.6	21.6	22.8	24.0	25.1	34.9	36.2	38.3	24 22.86	0.03	16.33	9 24 39.22	15.43
	ο Leonis	10	24.2	26.2	27.5	37.2	38.1	39.4	40.7	41.6	51.4	52.6	54.7	33 39.42	0.03	16.33	9 33 55.78	15.28
	ε Leonis	11	37.2	39.3	40.7	51.1	52.3	53.6	55.0	56.1	6.6	7.9	10.2	37 53.64	+ 0.05	16.33	9 37 10.02	16.17
	18 Leonis	12	. .	. .	. .	1.7	3.0	4.9	20.5	23.1	24.3	25.6	26.9	39 16.25	— 26.61	16.33	9 39 5.97	15.37
	μ Leonis	13	30.8	32.9	34.4	44.9	46.1	47.5	48.8	49.8	0.7	2.1	4.4	44 47.49	+ 0.06	16.33	9 45 3.88	16.19
	π Leonis	14	32.4	34.4	35.5	45.2	46.2	47.4	48.6	49.7	59.5	0.7	2.7	52 47.48	0.02	16.33	9 53 3.83	15.05
R.	α Lyræ	15	43.7	46.3	47.7	0.0	1.3	2.7	4.2	5.5	18.0	19.5	21.9	32 2.80	0.14	16.34	18 32 19.28	7.38
	α Aquilæ	16	36.7	39.0	40.3	49.9	51.0	52.1	53.2	54.4	4.3	5.5	7.5	43 52.17	+ 0.03	16.32	19 44 8.52	11.51
25	Sun I	17	0.5	2.6	3.9	13.8	14.9	16.2	17.4	18.5	28.8	30.2	32.3	28 16.28	— 0.05	16.31	20 28 32.54	. .
	Sun II	18	18.6	20.5	21.8	32.0	33.0	34.3	35.5	36.6	46.8	48.0	50.3	30 34.21	— 0.05	16.31	20 30 50.57	. .
	α Pegasi	19	27.9	29.9	31.2	40.9	42.0	43.1	44.4	45.6	55.5	56.7	58.7	57 43.26	+ 0.05	16.27	22 57 59.58	12.12
Y.	α Andromedæ . .	20	49.0	51.2	52.7	3.4	4.6	6.0	7.3	8.5	19.4	20.7	23.0	1 5.98	0.09	. .	. . . .	12.88
	Polaris	21	36.5	35.5	24.0	10.5	47.0	. .	. .	. .	. .	. .	. .	46 30.70	22 38.34	16.26	. . . .	83.00
R.	* + 12° 22′ . .	22	50.5	52.4	53.7	3.5	4.5	5.7	7.0	8.0	17.8	19.0	21.2	41 5.75	+ 0.04	16.29	2 41 22.01	14.50
	Weisse 724 . . .	23	. .	. .	. .	28.6	29.6	30.8	32.0	33.1	42.8	44.1	46.4	42 35.92	— 5.05	16.29	2 42 47.16	14.58
	Weisse 841 . .	24	14.5	16.5	17.7	27.6	28.6	29.6	31.0	32.0	42.1	43.3	45.3	28 29.85	+ 0.04	16.29	2 28 46.18	14.65
	Lacaille 933 . .	25	49.3	51.4	52.9	3.4	4.4	5.8	7.3	8.3	18.6	20.0	22.3	51 5.79	— 0.06	16.29	2 51 23.02	11.76
	Weisse 976 . . .	26	33.0	34.9	36.2	46.0	47.1	48.3	49.6	50.7	0.7	1.7	3.8	55 48.36	+ 0.04	16.29	2 56 4.69	14.77
	* + 13° 44′ . .	27	. .	. .	. .	37.9	38.9	40.1	41.3	42.5	52.4	53.7	55.4	57 45.28	— 5.06	16.29	2 57 56.51	14.78
	* + 13° 44′ . .	28	. .	. .	. .	0.4	1.4	2.6	3.9	5.0	14.9	16.1	18.2	58 7.81	— 5.06	16.29	2 58 19.04	14.78
	δ Arietis	29	20.9	22.9	24.3	34.4	35.5	36.7	38.0	39.1	49.3	50.5	52.8	3 36.76	+ 0.06	16.30	3 3 53.12	15.35
	Vesta	30	38.2	40.1	41.4	51.2	52.3	53.5	54.8	55.7	5.6	6.9	9.9	7 53.52	0.04	16.30	3 8 9.86	. .
	Weisse 173 . . .	31	22.5	24.5	25.8	35.7	36.7	38.0	39.3	40.3	50.3	51.4	53.7	10 38.02	+ 0.04	16.30	3 10 54.36	14.98
	B. A. C. 1049 . .	32	56.3	58.4	59.8	10.1	11.2	12.5	13.8	15.0	25.6	26.9	29.1	15 12.61	— 0.06	16.30	3 15 28.85	11.75
	Melpomene . . .	33	23.8	25.9	27.1	36.7	37.7	38.8	40.0	41.1	50.8	52.0	54.0	18 38.90	+ 0.02	16.31	3 18 55.23	. .
	* + 5° 9′ . . .	34	. .	. .	. .	. .	. .	. .	41.4	43.7	45.0	46.3	47.6	19 44.80	— 33.77	16.31	3 19 27.34	14.25
	Hebe	35	14.4	16.4	17.5	27.0	28.2	29.5	30.7	31.7	40.8	42.4	44.3	26 29.35	+ 0.02	16.39	4 26 45.76	. .
	* — 27° 32′ . .	36	59.2	1.5	2.7	13.5	14.6	16.0	17.3	18.6	29.3	30.8	33.0	32 16.05	— 0.07	16.39	4 32 32.37	11.40
	Lacaille 1549 . .	37	44.9	47.0	48.4	59.3	0.3	1.6	3.0	4.0	15.4	16.5	18.8	35 1.75	— 0.07	16.39	4 35 18.07	11.30
	O. Arg. S. 3326 .	38	3.1	5.2	6.5	16.8	17.9	19.3	20.5	21.6	32.4	33.5	35.7	37 19.32	0.06	16.39	4 37 35.65	11.82
	O. Arg. S. 3691 .	39	47.0	49.3	50.7	1.6	2.8	4.0	5.5	6.6	17.5	19.0	21.0	2 4.09	0.05	16.41	5 2 20.45	11.25
	Weisse 136 . . .	40	31.5	33.4	34.8	44.8	45.7	46.7	47.8	48.9	58.5	59.8	1.8	6 46.70	0.01	16.41	5 7 3.10	13.52
	β Orionis	41	30.6	32.6	33.8	43.4	44.4	45.9	47.0	48.0	57.8	59.0	1.0	7 45.77	0.01	16.41	5 8 2.17	13.51
	O. Arg. S. 3830 .	42	. .	. .	. .	48.7	49.9	52.0	9.2	11.9	13.3	14.8	15.6	12 4.55	29.35	16.41	5 11 51.61	11.49
	O. Arg. S. 3866	43	27.2	29.0	30.5	41.5	42.6	44.0	45.3	46.4	57.5	58.9	1.0	13 43.99	— 0.04	16.41	5 14 0.36	11.48
	Uranus	44	18.8	20.9	22.1	32.6	33.6	35.0	36.2	37.5	48.0	49.3	51.4	22 35.04	+ 0.05	16.42	5 22 51.51	. .
	* — 29° 7′ . . .	45	. .	. .	. .	57.3	58.6	1.0	18.4	21.0	22.3	23.8	25.2	53 13.45	— 29.82	16.43	5 53 0.06	11.42
	O. Arg. S. 4527	46	15.0	17.1	18.5	29.7	30.8	32.0	33.5	34.7	45.8	47.0	49.4	54 32.14	— 0.05	16.43	5 54 48.52	11.42
	ν Orionis	47	18.8	20.9	22.1	32.0	33.0	34.3	35.5	36.5	46.5	47.8	50.0	59 34.31	+ 0.03	16.44	5 59 50.88	16.14
	B. A. C. 1995 . .	48	38.9	41.2	42.3	53.2	54.3	55.6	57.0	58.1	8.8	10.3	12.7	4 55.67	— 0.04	16.44	6 5 12.07	11.71
	Lacaille 2177 . .	49	31.8	33.9	35.2	46.2	47.1	48.4	49.8	51.0	1.9	3.1	5.2	5 48.50	— 0.04	16.44	6 6 4.91	11.70
	μ Geminorum . . .	50	14.0	15.9	17.5	27.7	28.9	30.2	31.4	32.5	43.1	44.4	46.3	14 30.17	+ 0.05	+16.44	6 14 46.66	— 17.14

5. Through clouds; on fillet.
6. Through clouds; very faint.
7. Faint.

		s.
January	24,	n. = + 0.10.
	24–25, 18h. to 2h.	0.16.
	25, 2h. to 5h.	0.14.
	5h. to 7h.	0.10.
	9h. to 11h.	0.06.
	25–26, 17h. to 23h.	+ 0.10.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 24, 9.5	+ 16.33	+ 0.006	+ 0.007
25, 22.5	16.28	0.015	. .
6.7	16.46	0.031	. .
19.4	+ 16.60	+ 0.010	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 25	O. Arg. S. 5082	1	55.5	57.7	59.0	10.2	11.2	12.8	13.9	15.2	26.3	27.7	29.8	19 12.66	− 0.05	+16.45	6 19 29.06	− 11.58
R.	α Canis Majoris	2	39.4	41.3	42.6	52.7	53.9	55.0	56.3	57.3	7.5	8.6	10.3	38 54.99	− 0.02	16.46	6 39 11.43	12.87
	ο Leonis	3	24.2	26.3	27.4	37.0	38.1	39.3	40.4	41.5	51.4	52.6	54.4	33 39.33	+ 0.03	16.55	9 33 55.91	15.30
	ε Leonis	4	. .	. .	. .	. .	. .	. .	26.8	29.2	30.7	32.0	33.4	38 30.42	− 36.91	16.55	9 38 10.06	16.19
	18 Leonis	5	. .	. .	. .	. .	. .	. .	20.5	22.9	24.0	25.4	26.7	39 23.90	− 34.44	16.55	9 39 6.01	15.38
	Moon II	6	1.3	3.2	4.5	14.4	15.3	16.4	17.7	18.8	28.7	29.9	31.9	7 16.55	+ 0.01	16.57	10 7 33.13	. .
	γ Leonis	7	58.0	0.1	1.5	11.8	12.8	14.0	15.2	16.4	26.7	27.8	30.1	12 14.04	0.03	16.57	10 12 30.64	15.62
	43 Leonis	8	24.0	26.1	27.3	37.0	37.9	39.1	40.3	41.3	51.1	52.2	54.4	15 39.15	0.01	16.57	10 15 55.73	14.88
Y.	α Ophiuchi	9	5.3	7.4	8.7	18.4	19.4	20.6	21.9	23.0	32.8	34.0	36.2	28 20.70	+ 0.03	16.58	17 28 37.31	11.15
	Venus II	10	15.6	17.5	18.9	29.0	30.2	31.4	32.7	34.0	44.2	45.7	47.9	34 31.56	− 0.03	16.58	17 34 48.11	− 0.59
	δ Ursæ Minoris	†11	16.0	49.0	9.0	50.0	7.0	27.0	. .	5.5	. .	. .	. .	13 49.07	+ 1 40.70	16.59	. . . .	+ 103.81
	α Lyræ	12	43.3	46.0	47.6	59.7	1.0	2.6	4.0	5.3	17.7	19.3	22.0	32 2.59	+ 0.09	16.59	18 32 19.27	− 7.40
	β Lyræ	†13	. .	. .	. .	43.7	44.8	46.2	47.5	48.8	0.4	1.8	4.2	44 52.18	− 5.85	16.59	18 45 2.92	8.27
26	Sun I	14	10.2	12.3	13.6	23.7	24.7	26.0	27.2	28.4	38.5	39.7	41.9	32 26.02	0.03	16.61	20 32 42.60	. .
	Sun II	15	27.9	30.0	31.3	41.3	42.5	43.7	45.0	46.0	56.4	57.6	59.6	34 43.75	− 0.03	16.61	20 35 0.33	. .
	α Pegasi	16	27.5	29.5	30.7	40.5	41.5	42.8	44.0	45.1	55.0	56.3	58.4	57 42.85	+ 0.03	16.62	22 57 59.50	12.12
	Vesta	17	8.6	10.7	12.0	21.7	22.7	23.9	25.0	26.3	36.2	37.4	39.5	8 24.00	0.00	17.10	3 8 41.10	. .
	Lacaille 1113	†18	6.8	9.0	10.4	20.8	21.9	23.2	24.5	25.7	36.3	37.6	39.9	23 23.28	0.03	17.11	3 23 40.42	11.75
	ε Eridani	19	0.7	2.7	4.0	13.6	14.6	15.9	17.0	18.0	27.8	29.0	31.0	26 15.85	+ 0.01	17.11	3 26 32.97	12.73
	B. A. C. 1119	20	13.6	15.7	17.0	26.9	28.0	29.2	30.5	31.6	41.5	42.8	44.9	31 29.25	− 0.01	17.11	3 31 46.35	15.31
	Lacaille 1199	21	49.4	51.6	53.1	4.0	5.1	6.4	7.7	8.9	20.2	21.6	23.8	38 6.53	+ 0.03	17.12	3 38 23.68	11.21
	Weisse (2) 887	22	.	. .	. .	13.5	14.9	16.9	32.6	35.3	36.6	37.9	39.2	40 28.36	− 27.14	17.12	3 40 18.34	15.43
	B. A. C. 1206	23	52.7	54.8	56.1	6.0	7.0	8.3	9.7	10.7	20.9	22.0	24.3	45 8.41	0.01	17.12	3 45 25.52	15.52
	Weisse (2) 1015	24	20.4	22.5	23.9	33.8	34.8	36.1	37.4	38.6	48.6	49.9	52.0	46 36.18	0.01	17.12	3 46 53.29	15.53
	γ Eridani	†25	. .	. .	. .	23.2	24.3	25.6	26.8	27.8	37.9	39.0	41.1	51 30.71	5.11	17.12	3 51 42.72	12.74
	Weisse (2) 1261	26	25.3	27.4	28.6	38.6	39.7	40.9	42.2	43.3	53.3	54.8	56.9	58 41.02	− 0.01	17.13	3 58 58.14	15.70
	Lacaille 1370	27	43.9	45.9	47.4	57.9	59.0	0.3	1.7	2.8	13.5	14.8	17.0	4 0.38	+ 0.03	17.14	4 4 17.55	11.60
	Weisse (2) 118	†28	46.2	48 4	49.9	. .	. .	. .	. .	. .	17.5	19.0	21.5	7 3.75	− 0.07	17.14	4 7 20.82	17.41
	Weisse (2) 120	29	3.9	5.1	6.7	7.8	9.3	. .	41.7	42.8	46.4	47.9	49.4	7 26.10	19.68	17.14	4 7 23.56	17.41
	Weisse (2) 248	30	0.4	2.5	3.7	13.8	14.9	16.1	17.5	18.5	28.7	30.0	32.0	12 16.19	− 0.01	17.14	4 12 33.32	15.92
	Weisse (2) 363	31	3.3	5.3	6.5	16.7	17.7	19.0	20.2	21.3	. .	. .	. .	17 13.75	+ 5.25	17.14	4 17 36.14	15.98
	Weisse (2) 376	31	26.0	28.1	29.4	39.5	40.5	41.8	43.0	44.1	54.4	55.5	57.8	17 41.83	− 0.01	17.14	4 17 58.96	15.98
	Weisse 512	33	34.4	36.6	38.0	48.6	49.7	50.9	52.1	53.5	3.9	5.3	7.4	23 50.95	0.01	17.15	4 24 8.09	16.77
	Hebe	34	32.8	34.8	36.1	45.6	46.6	47.9	49.0	50.1	59.8	1.0	3.0	26 47.88	− 0.00	17.15	4 27 5.03	14.69
	* −27° 52′	35	58.5	0.7	2.1	12.8	14.0	15.2	16.4	17.7	28.7	29.9	32.2	32 15.29	+ 0.03	17.15	4 32 32.47	11.38
	Lacaille 1549	36	44.0	46.2	47.5	58.4	59.6	0.9	2.2	3.5	14.4	15.8	18.0	25 0.95	0.03	17.16	4 35 18.14	11.28
	O. Arg. S. 3326	37	2.4	4.5	5.7	16.2	17.3	18.6	19.8	21.0	31.5	32.9	34.9	37 18.62	+ 0.03	17.16	4 37 35.81	11.80
	O. Arg. S. 3360	†38	44.3	46.4	47.9	. .	. .	. .	. .	. .	15.0	16.3	18.4	40 1.38	− 0.02	17.16	4 40 18.52	11.23
	O. Arg. S. 3437	39	30.4	32.6	33.9	44.7	45.8	47.1	48.6	49.8	0.5	1.7	4.0	44 47.19	+ 0.03	17.16	4 45 4.38	11.42
	* −30° 52′	40	50.7	53.1	54.4	5.6	6.7	8.1	9.5	10.7	21.9	23.3	25.7	47 8.15	0.03	17.16	4 47 25.34	11.00
	O. Arg. S. 3506	41	24.6	26.8	28.0	38.5	39.6	40.7	42.0	43.2	53.8	55.0	57.2	49 40.85	0.03	17.17	4 49 58.05	11.87
	* −28° 37′	42	13.5	15.8	17.2	28.0	29.2	30.5	31.9	33.1	44.0	45.5	47.7	53 30.58	0.03	17.17	4 53 47.78	11.29
	11 Orionis	43	17.5	19.6	20.8	30.7	31.8	33.0	34.3	35.3	45.3	46.5	48.6	56 33.04	0.00	17.17	4 56 50.21	15.90
	O. Arg. S. 3691	44	. .	48.4	49.9	0.7	1.8	3.3	4.6	5.7	17.0	18.1	. .	2 3.28	+ 0.06	17.17	5 2 20.51	11.24
	Uranus	45	11.3	13.4	14.7	25.0	26.1	27.5	28.8	29.9	40.4	41.6	43.9	22 27.51	− 0.03	17.19	5 2 44.67	. .
	ε Orionis	†46	48.6	50.5	51.7	1.4	2.4	3.6	4.9	5.8	15.4	16.6	18.6	29 3.60	+ 0.01	17.19	5 29 20.80	14.30
	O. Arg. N. 6159	47	27.5	33.4	37.7	7.1	10.0	13.6	17.7	20.7	50.4	54.4	0.5	36 13.91	− 0.21	17.20	5 36 30.90	33.86
	O. Arg. N. 6250	48	49.8	56.3	0.1	29.8	33.2	36.7	40.4	43.9	14.4	18.0	24.5	42 36.01	0.21	17.20	5 42 54.00	34.30
	O. Arg. N. 6390	49	54.8	1.4	5.3	36.8	40.1	44.0	47.8	51.2	22.8	27.0	33.6	51 44.07	0.23	17.21	5 52 1.05	35.35
	* +73° 33′	50	. .	. .	. .	42.3	46.3	50.7	54.7	57.2	. .	. .	. .	56 50.24	− 0.08	+17.21	5 57 7.37	− 37.14

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 26, 7.7	+ 17.28	+ 0.040	+ 0.007

11. Very faint.
13. Faint.
18. Saw Melpomene; too faint for observation.
25. Rather hurried.
28. Headed by a smaller star.
38. Uncertain; under clouds.
46. Unsteady.

January 26, 3h. to 5h. n. = − 0.04 s.
5h. to 12h. − 0.08.

January 26, 6h. 50m. Image west 0.04 r. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. Jan. 26 Y.	* (116 W.)	1	12.9	20.1	24.2	57.9	1.7	5.5	9.9	13.8	47.5	52.4	59.5	58 5.95	— 0.25	+17.21	5 58 22.91	— 37.19
	O. Arg. S. 4680	2	42.7	45.0	46.4	57.7	58.7	0.0	1.3	2.6	14.0	15.2	17.7	2 0.12	+ 0.06	17.21	6 2 17.39	11.27
	O. Arg. N. 6682	3	37.8	44.6	49.0	22.5	26.0	30.3	34.3	38.2	11.9	16.4	23.4	8 30.40	— 0.25	17.22	6 8 47.37	— 37.11
	δ Ursæ Minoris, S. P.	4	. .	. .	. .	6.0	48.5	29.5	9.0	51.0	. .	. .	. .	15 28.80	+ 0.43	17.22	. . . .	+ 103.72
	γ Geminorum	5	21.2	23.0	24.3	34.3	35.3	36.6	37.8	38.8	48.8	50.1	52.3	29 36.59	— 0.02	17.23	6 29 53.80	— 16.41
	51 Cephei	6	. .	. .	. .	15.0	35.5	1.0	26.0	45.5	. .	. .	. .	36 0.60	— 0.53	17.24	6 36 17.31	157.14
	Lacaille 3923	7	54.8	57.3	58.5	9.0	9.9	11.2	12.5	13.6	24.4	25.4	27.7	30 11.31	+ 0.04	17.35	9 30 28.70	13.37
	B. A. C. 4098	8	. .	. .	. .	50.8	52.1	54.5	11.9	14.6	16.1	17.6	19.4	32 7.12	— 30.01	17.35	9 31 54.46	13.03
	Lacaille 3976	9	23.3	25.6	27.0	37.9	39.0	40.4	41.7	42.8	54.1	55.4	58.7	35 40.54	+ 0.05	17.36	9 35 57.95	13.10
	Weisse (2) 832	10	11.2	13.3	14.6	24.6	25.7	26.9	28.0	29.4	39.3	40.6	42.5	39 26.92	— 0.02	17.36	9 39 44.26	15.63
	μ Leonis	†11	29.6	31.8	33.1	43.9	45.0	46.3	47.5	49.0	59.8	1.2	3.5	44 46.43	— 0.03	17.36	9 45 3.76	16.23
	* —32° 44′	12	44.5	46.8	48.4	59.6	0.7	2.2	3.5	4.8	16.3	17.7	20.1	49 2.24	+ 0.06	17.36	9 49 19.66	13.07
	B. A. C. 3405	13	6.6	8.9	10.5	21.8	23.0	24.5	25.8	27.2	38.5	40.0	42.3	50 24.46	+ 0.06	17.37	9 50 41.89	13.08
	Lacaille 4089	14	. .	. .	. .	36.3	37.8	40.0	57.2	59.9	1.4	2.9	4.3	52 52.48	— 29.60	17.37	9 52 40.25	13.32
	Lacaille 4115	15	2.6	4.8	6.2	27.1	28.2	29.8	31.0	32.3	43.5	44.8	47.1	56 29.76	+ 0.05	17.37	9 56 47.18	13.30
	Lacaille 4142	16	1.4	3.6	5.0	16.5	17.7	19.1	20.5	21.8	33.1	34.6	36.9	59 19.11	0.06	17.37	9 59 36.54	13.19
	* —32° 12′	17	. .	. .	. .	32.5	33.6	35.0	36.6	37.7	. .	. .	. .	2 35.18	0.12	17.37	10 2 52.67	13.25
	Lacaille 4165	18	58.4	0.6	2.0	13.5	14.6	16.0	17.4	18.6	30.0	31.5	33.8	3 16.04	0.06	17.37	10 3 33.47	13.26
	Lacaille 4185	19	14.6	16.9	18.3	29.8	31.0	32.6	33.9	35.1	46.7	48.2	50.6	5 30.52	+ 0.06	17.38	10 5 47.96	13.22
	B. A. C. 3497	20	41.1	42.3	44.1	45.5	46.9	. .	23.5	26.6	28.2	29.8	30.5	8 5.95	— 21.74	17.38	10 8 1.59	12.96
	B. A. C. 3498	21	51.2	52.3	53.9	55.5	56.8	. .	. .	36.4	37.8	39.5	41.3	8 13.86	19.80	17.38	10 8 11.44	12.97
	γ Leonis	†22	57.2	59.4	0.6	11.0	12.0	13.3	14.6	15.6	25.8	27.1	29.2	12 13.25	0.02	17.38	10 12 30.61	15.64
	43 Leonis	23	23.2	25.2	26.4	36.0	37.0	38.4	39.5	40.4	49.9	51.1	53.4	15 38.23	0.00	17.38	10 15 55.61	14.89
	45 Leonis	24	57.6	59.7	1.0	10.7	11.7	12.9	14.1	15.2	24.9	26.0	28.2	20 12.91	— 0.01	17.39	10 20 30.29	15.00
	Lacaille 4324	†25	57.2	59.4	0.7	11.3	12.4	13.7	15.4	16.6	27.3	28.5	30.9	25 13.95	+ 0.05	17.39	10 25 31.39	13.67
	Lacaille 4340	†26	. .	. .	. .	11.4	12.6	13.9	15.2	16.4	27.2	28.4	30.6	27 19.46	— 5.49	17.39	10 27 31.36	13.72
	Lacaille 4360	27	. .	. .	. .	38.1	39.5	41.8	58.8	1.2	2.7	4.6	5.5	29 53.95	— 28.88	17.39	10 29 42.46	13.76
	Lacaille 4382	28	10.8	12.9	14.4	25.1	26.3	27.5	28.8	29.9	40.6	41.8	43.9	32 27.45	+ 0.05	17.39	10 32 44.89	13.82
	Lacaille 4406	29	53.6	55.8	57.1	7.6	8.7	10.0	11.3	12.3	23.3	24.5	26.7	35 10.08	+ 0.05	17.40	10 35 27.53	13.82
	l Leonis	30	36.0	37.9	39.2	48.8	49.9	51.1	52.2	53.3	3.4	4.5	6.4	41 51.15	— 0.01	17.40	10 42 8.54	14.86
	Dorpat 1482 (1st *)	†31	13.0	14.2	15.7	16.7	19.2	. .	19.7	22.2	23.3	24.7	26.0	44 49.47	0.25	17.40	10 45 6.62	14.74
	Dorpat 1482 (2d *)	32	34.8	36.8	38.0	47.6	48.7	50.0	51.0	52.2	1.8	3.0	5.0	44 49.90	0.01	17.40	10 45 7.29	14.74
	Lalande 21014	33	28.7	30.9	32.2	42.7	43.7	45.1	46.4	47.6	58.1	59.4	1.5	48 45.12	— 0.03	17.40	10 49 2.49	15.23
	Moon II	34	55.9	58.0	59.2	8.8	9.8	11.0	12.3	13.3	23.0	24.3	26.2	53 11.08	0.00	17.41	10 53 28.49	. .
	p^1 Leonis	35	23.4	25.3	26.4	36.0	37.0	38.3	39.4	40.6	50.0	51.4	53.4	54 38.29	+ 0.01	17.41	10 54 55.71	14.44
	χ Leonis	36	29.8	31.8	33.1	42.6	43.7	44.8	46.0	47.1	56.8	57.9	0.0	57 44.87	0.00	17.41	10 58 2.28	14.55
	Lacaille 4614	37	33.9	36.2	37.6	48.6	49.7	51.1	52.5	53.6	4.7	6.0	8.4	1 51.12	0.05	17.41	11 2 8.58	13.98
	Lacaille 4638	38	48.6	50.7	52.0	2.6	3.6	4.8	6.0	7.2	18.1	19.4	21.5	5 4.95	0.05	17.42	11 5 22.42	14.06
	φ Leonis	39	14.5	16.5	17.9	27.5	28.4	29.6	30.8	31.8	41.5	42.6	44.5	9 29.60	0.01	17.42	11 9 47.03	14.37
	δ Crateris	40	2.1	4.1	5.3	15.1	16.3	17.4	18.7	19.7	29.7	30.8	32.9	12 17.46	0.03	17.42	11 12 34.91	14.19
R.	Venus II	41	19.4	21.4	22.9	33.0	34.2	35.4	36.8	38.0	. .	. .	. .	39 30.14	5.29	17.39	17 39 52.82	0.59
	α Aquilæ	42	36.1	38.1	39.4	49.0	50.0	51.0	52.3	53.5	3.0	4.2	6.5	43 51.19	+ 0.04	17.39	19 44 8.62	11.53
27	Sun I	43	18.6	20.7	21.8	31.9	33.1	34.4	35.6	36.7	46.8	48.0	50.3	36 34.35	— 0.07	17.39	20 36 51.67	. .
	Sun II	44	36.3	38.6	39.8	49.6	50.8	52.0	53.4	54.4	4.7	5.9	7.9	38 52.13	— 0.07	17.39	20 39 9.45	. .
	ε Pegasi	45	57.5	59.7	1.0	10.6	11.6	12.8	14.0	15.0	25.0	26.1	28.2	37 12.86	+ 0.05	17.39	21 37 30.30	11.70
	α Piscis Australis	46	33.0	35.4	36.7	47.7	48.8	50.0	51.6	52.9	4.0	5.3	7.8	49 50.29	— 0.13	17.39	22 50 7.55	13.18
	α Pegasi	47	26.6	28.7	29.9	39.7	40.7	42.0	43.2	44.4	54.3	55.4	57.6	57 42.05	+ 0.07	17.39	22 57 59.51	12.11
Y.	α Andromedæ	48	47.8	50.0	51.5	2.2	3.4	4.7	6.0	7.2	18.2	19.6	21.9	1 4.77	0.14	17.39	0 1 22.30	12.86
	Polaris	49	30.5	26.0	14.5	1.0	38.0	. .	.	. .	. .	. .	. .	46 22.00	22 40.72	17.39	1 9 20.11	81.66
R.	δ Arietis	50	19.7	21.7	23.1	33.0	34.1	35.4	36.6	37.8	48.0	49.3	51.4	3 35.46	+ 0.07	+17.59	3 3 53.12	— 15.32

11. Unsteady.
22. Unsteady.
25. Unsteady.
26. Faint.
31. Faint.

			s.
January 26–27,	17h. to 2h.	n. =	+ 0.24.
27,	3h. to 5h.		0.18.
	5h. to 7h.		+ 0.06.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 27, 22.2	+ 17.39	0.000	+ 0.007
8.1	17.77	+ 0.035	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 27	Lacaille 1010 . .	1	1.4	3.5	4.9	15.6	16.8	18.0	19.4	20.6	31.8	33.0	35.3	7 18.21	− 0.09	+17.60	3 7 35.72	− 11.35
	Vesta	2	. .	. .	. .	. .	. .	. .	26.8	29.4	30.5	31.8	33.2	9 30.34	− 34.48	17.60	3 9 13.46	. .
	Weisse (2) 255 . .	3	55.5	57.5	58.7	8.5	9.6	10.8	12.0	13.2	23.3	24.5	26.5	12 10.92	+ 0.06	17.60	3 12 28.58	15.01
R.	B. A. C. 1047 . .	4	23.8	25.9	27.3	38.1	39.0	40.4	41.6	42.9	53.8	55.1	57.5	14 40.49	− 0.09	17.60	3 14 58.00	11.43
	Lacaille 1079 . .	5	23.2	25.5	26.8	37.7	38.8	40.2	41.5	42.8	53.7	54.9	57.2	17 40.21	− 0.09	17.60	3 17 57.72	11.30
	Melpomene . . .	†6	41.1	43.0	44.4	53.9	54.9	56.2	57.4	58.5	8.0	9.2	11.6	20 56.20	+ 0.02	17.60	3 21 13.82	14.26
	* + 5° 27′ . . .	7	53.6	55.6	56.8	6.4	7.4	8.6	9.8	10.8	20.6	21.7	23.8	22 8.65	+ 0.02	17.61	3 22 26.28	14.27
	ε Eridani	8	0.2	2.1	3.5	13.0	14.1	15.3	16.4	17.6	27.3	28.5	30.5	26 15.32	− 0.02	17.61	3 26 33.91	12.71
	Lacaille 1580 . .	9	54.9	57.0	58.3	8.9	9.9	11.3	12.7	13.7	24.4	25.6	28.1	40 11.35	0.08	17.65	4 40 28.92	11.62
	O. Arg. S. 3437 .	10	29.9	32.1	33.5	44.4	45.5	46.6	48.0	49.3	0.1	1.4	3.8	44 46.78	− 0.09	17.65	4 45 4.34	11.40
	ι Aurigæ	11	34.4	37.6	39.0	50.5	51.6	53.1	54.5	55.7	7.3	8.7	11.0	47 53.13	+ 0.13	17.65	4 48 10.91	18.09
	Lacaille 1659 (1st *)	12	12.3	14.6	16.3	. .	. .	. .	. .	. .	47.1	48.6	51.2	50 31.68	− 0.19	17.66	4 50 49.15	9.74
	Lacaille 1659 (2d *)	13	. .	. .	. .	33.8	35.2	36.8	38.4	39.7	. .	. .	. .	50 36.78	0.08	17.66	4 50 54.36	9.74
	Lacaille 1678 . .	14	0.4	2.8	4.2	16.4	17.6	19.0	20.6	21.9	33.9	35.3	37.8	54 19.08	0.13	17.66	4 54 36.61	10.16
	γ^1 Cœli	15	56.8	59.2	0.8	12.6	13.6	15.2	16.6	17.9	29.8	31.2	33.8	59 15.23	0.12	17.66	4 59 32.77	10.37
	O. Arg. S. 3717 .	16	18.0	20.3	21.5	31.9	33.1	34.6	35.8	37.0	47.8	49.1	51.3	3 34.58	0.02	17.66	5 3 52.22	11.67
	* — 25° 24′ . .	17	33.0	35.0	36.3	. .	. .	. .	. .	. .	2.5	3.7	6.2	4 49.45	0.06	17.66	5 5 7.05	11.68
	Lacaille 1770 . .	18	16.7	18.8	20.2	31.0	32.2	33.5	34.9	36.1	47.0	48.4	50.8	9 33.60	0.03	17.67	5 9 51.24	11.33
	O. Arg. S. 3830 .	19	. .	. .	. .	47.5	48.8	50.9	8.2	10.8	12.3	13.8	15.1	12 3.42	29.34	17.67	5 11 51.75	11.46
	O. Arg. S. 3866 .	20	. .	. .	. .	40.4	41.5	42.7	44.1	45.2	56.2	57.4	59.8	13 48.41	− 5.61	17.67	5 14 0.48	11.46
	β Tauri	21	9.6	11.7	13.3	24.0	25.2	26.5	27.9	29.0	40.0	41.3	43.6	17 26.55	+ 0.03	17.67	5 17 44.25	17.66
	Uranus I . . .	22	40.9	42.5	43.7	44.9	47.6	. .	52.8	55.3	56.7	58.0	59.6	22 20.20	− 0.23	17.68	5 22 37.65	. .
	Uranus II . . .	23	4.0	6.1	7.6	17.9	18.9	20.2	21.5	22.7	33.1	34.5	36.7	22 20.29	+ 0.03	17.68	5 22 38.00	. .
	Lacaille 1916 . .	24	49.5	51.5	52.9	4.0	5.2	6.6	8.1	9.4	20.5	21.9	24.4	32 6.73	− 0.03	17.68	5 32 24.38	11.07
	* — 25° 33′ . .	25	59.0	1.0	2.5	13.0	14.0	15.5	16.8	17.9	28.6	29.9	32.2	35 15.49	0.02	17.68	5 35 33.15	11.76
	O. Arg. S. 4263 .	26	16.7	18.9	20.3	31.0	32.1	33.5	34.7	36.0	46.9	48.4	50.6	38 33.55	0.02	17.68	5 38 51.21	11.53
	* + 25° 43′ . .	27	. .	. .	. .	34.8	36.3	38.5	. .	58.0	59.3	0.7	2.1	41 49.96	− 28.17	17.69	5 41 39.48	17.41
	α Orionis	28	18.1	20.1	21.5	30.8	31.9	33.2	34.4	35.4	45.1	46.3	48.4	47 33.20	+ 0.01	17.69	5 47 50.90	15.27
	* — 29° 55′ . .	29	. .	. .	. .	5.2	6.3	7.6	8.9	10.1	21.6	22.6	24.9	50 13.40	− 5.75	17,69	5 50 25.34	11.29
	* — 29° 58′ . .	30	. .	. .	. .	. .	. .	. .	44.1	47.0	48.6	50.0	51.5	50 48.24	38.87	17.69	5 50 27.06	11.29
	δ Ursæ Minoris, S. P.	31	. .	. .	. .	31.0	51.0	8.0	47.5	9.0	42.5	. .	. .	17 31.50	2 2.65	17.71	. . . .	. .
	B. A. C. 2127 . .	32	51.0	53.2	54.5	5.1	6.3	7.7	9.0	10.1	21.2	22.6	24.9	24 7.78	0.02	17.71	6 24 25.47	11.98
	Lalande 12614 . .	33	. .	. .	. .	. .	. .	. .	16.8	19.4	20.7	22.0	23.4	28 20.46	− 35.08	17.71	6 28 3.09	16.39
	γ Geminorum . . .	34	20.5	22.6	23.9	33.7	34.7	35.9	37.3	38.3	48.5	49.7	51.8	29 36.08	+ 0.02	17.71	6 29 53.81	16.40
	Lacaille 2380 . .	35	. .	. .	. .	40.7	41.8	44.3	0.6	3.2	4.6	6.0	7.5	32 56.09	− 28.37	17.72	6 32 45.44	12.26
	O. Arg. S. 5450 .	36	25.1	27.3	28.4	38.9	40.0	41.3	42.6	43.7	54.3	55.5	57.8	33 41.35	0.02	17.72	6 33 59.05	12.25
	α Canis Majoris . .	37	38.2	40.2	41.5	51.3	52.4	53.7	55.0	56.1	6.0	7.3	9.5	38 53.75	0.01	17.72	6 39 11.46	12.86
	* — 32° 22′ . .	38	. .	. .	. .	9.0	10.2	11.7	13.2	14.4	25.9	27.1	29.6	44 17.64	5.90	17.72	6 44 29.46	11.29
	κ Canis Majoris . .	39	47.7	49.3	50.8	52.2	55.0	. .	5.9	8.8	10.3	11.8	13.2	44 30.50	0.30	17.72	6 44 47.92	11.29
	Lacaille 2519 . .	40	39.0	41.1	42.7	53.9	55.0	56.4	57.8	58.8	10.4	11.8	14.2	48 56.46	0.03	17.73	6 49 14.16	11.41
	Lacaille 2528 . .	41	13.4	15.5	17.1	28.2	29.4	30.8	32.2	33.4	44.9	46.1	48.6	50 30.87	0.03	17.73	6 50 48.57	11.42
	γ Canis Majoris . .	42	5.4	7.4	8.6	18.7	19.7	21.0	22.2	23.3	33.1	34.4	36.5	57 20.94	0.01	17.73	6 57 38.66	13.22
	* — 31° 11′ . .	43	50.1	51.9	53.4	54.6	57.4	. .	7.6	10.4	11.9	13.3	14.8	2 32.54	0.28	17.73	7 2 49.99	11.56
	Lacaille 2637 . .	44	25.8	28.1	29.6	40.7	42.0	43.3	44.7	45.9	57.2	58.5	1.1	2 43.35	0.01	17.73	7 3 1.07	11.56
	B. A. C. 2371 . .	45	16.8	19.0	20.7	31.7	32.8	34.3	35.8	37.0	48.2	49.5	52.0	6 34,35	0.01	17.74	7 6 52.08	11.66
	* — 30° 25′ . .	46	49.0	51.4	52.6	3.7	4.9	6.2	7.7	8.9	20.1	21.4	23.8	9 6.34	0.01	17.74	7 9 24.07	11.70
	B. A. C. 2399 . .	47	32.7	35.0	36.2	47.5	48.6	50.0	51.3	52.5	3.8	5.1	7.5	9 50.02	0.01	17.74	7 10 7.75	11.70
	B. A. C. 2428 . .	48	36.8	39.1	40.5	52.0	53.2	54.8	56.2	57.4	9.0	10.3	12.7	13 54.73	0.01	17.74	7 14 12.46	11.38
	O. Arg. S. 6734 .	49	28.2	30.5	31.7	42.6	43.6	45.0	46.4	47.5	58.5	59.7	2.0	17 45.06	0.01	17.74	7 18 2.79	12.08
	* — 30° 19′ . .	50	. .	. .	. .	58.6	0.1	2.5	20.0	22.9	24.2	25.8	27.3	20 15.18	− 30.15	+17.74	7 20 2.77	− 11.79

CORRECTIONS, &c.

Date.		Error of clock.	Hourly rate.	c.
	h.	s.	s.	s.
Jan. 27,	8.1	+ 17.77	+ 0.035	+ 0.007

6. Several very small stars in the field.

January 27, 7h. to 12h. n. = + 0.03. (s.)

January 27, 11h. 50m. Image east 0.03. (r.) Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. Jan. 27 R.	* — 20° 24′ . .	1	23.7	25.9	27.3	38.5	39.5	40.8	42.4	43.5	54.8	56.2	58.6	23 41.02	— 0.00	+17.75	7 23 58.77	— 12.84
	α¹ Geminorum . .	2	. .	. .	. .	. .	. .	. .	15.5	18.3	19.7	21.2	22.7	26 19.48	39.73	17.75	7 25 57.50	18.32
	α² Geminorum . .	3	. .	. .	. .	37.5	38.7	40.0	41.5	42.8	54.3	55.6	58.0	25 46.05	— 5.82	17.75	7 25 57.98	18.27
	α Canis Minoris . .	4	40.6	42.7	43.8	53.5	54.5	55.6	56.8	57.9	7.5	8.7	10.8	31 55.67	+ 0.01	17.75	7 32 3.43	15.07
	O. Arg. S. 7286 .	5	11.6	13.8	15.4	26.3	27.4	28.8	30.2	31.4	42.6	43.9	46.4	36 28.89	— 0.01	17.75	7 36 46.63	11.98
	O. Arg. S. 7376 .	6	13.1	15.3	16.6	27.3	28.4	29.8	31.1	32.3	43.2	44.5	46.9	39 29.86	0.01	17.75	7 39 47.60	12.26
	O. Arg. S. 7444 .	7	40.5	42.7	44.2	55.1	56.4	57.9	59.3	0.4	11.6	12.9	15.4	41 57.85	0.01	17.76	7 42 15.60	11.98
	O. Arg. S. 7440 .	8	42.2	44.4	45.8	57.1	58.2	59.6	1.0	2.2	13.3	14.8	17.0	42 59.60	0.01	17.76	7 43 17.35	— 11.98
	λ Ursæ Minoris, S. P.	9	. .	. .	. .	27.0	49.0	42.0	28.0	37.0	29.0	30.5	38.0	2 50.06	4 22.59	17.77	. . . .	+ 318.15
	Dorpat 1224 (1st *)	10	39.4	40.9	42.2	43.6	46.0	. .	52.4	55.0	56.4	57.8	59.3	18 19.30	— 0.24	17.78	8 18 36.84	— 17.01
	Dorpat 1224 (2d *)	11	2.8	5.0	6.4	16.9	18.0	19.3	20.6	21.8	32.3	33.7	36.0	18 19.35	+ 0.02	17.78	8 18 37.15	17.01
	Weisse (2) 458 . .	12	52.4	55.0	56.4	7.0	8.2	9.5	11.0	12.2	22.8	24.0	26.2	20 9.52	+ 0.02	17.78	8 20 27.32	17.05
	Dorpat 1245 (1st *)	13	45.7	47.0	48.2	49.3	51.8	. .	52.4	54.6	55.9	57.1	58.5	28 22.05	— 0.23	17.78	8 28 39.60	15.36
	Dorpat 1245 (2d *)	14	7.0	8.9	10.2	19.9	20.9	22.0	23.2	24.3	34.1	35.4	37.3	28 22.11	+ 0.01	17.78	8 28 39.90	15.36
	Lalande 16960 . .	†15	47.0	48.9	50.3	59.8	0.8	2.0	3.0	4.2	14.0	15.1	17.0	30 2.01	0.01	17.78	8 30 19.80	15.35
	ε Hydræ	16	4.0	6.0	7.3	16.7	17.7	19.0	20.2	21.2	31.0	32.1	34.3	39 19.05	+ 0.01	17.79	8 39 36.85	15.27
	B. A. C. 3005 . .	17	48.0	50.3	51.6	2.5	3.5	4.9	6.2	7.6	18.6	20.0	22.2	44 5.04	— 0.01	17.79	8 44 22.82	12.65
	17 Hydræ	18	19.2	21.3	22.5	32.0	33.0	34.4	35.5	36.5	46.2	47.5	49.6	48 34.34	0.00	17.79	8 48 52.13	14.24
	Weisse 1274 . .	19	17.4	19.4	20.6	30.0	31.0	32.3	33.5	34.5	44.4	45.6	47.5	49 32.38	0.00	17.79	8 49 50.17	14.24
	O. Arg. S. 9258 .	20	. .	. .	. .	44.1	45.3	47.4	4.5	7.1	8.4	9.9	11.2	55 59.74	28.68	17.80	8 55 48.86	13.06
	B. A. C. 3096 . .	21	39.7	42.0	43.1	54.0	55.0	56.2	57.5	58.8	9.5	10.7	12.8	56 56.30	— 0.01	17.80	8 57 14.09	13.07
	κ Cancri	22	52.0	54.1	55.2	5.0	6.1	7.3	8.7	9.7	19.5	20.7	22.7	0 7.36	+ 0.01	17.80	9 0 25.07	15.54
	ε Mali	23	. .	. .	. .	53.0	54.1	55.4	56.9	58.1	9.2	10.6	13.0	4 1.29	— 5.71	17.80	9 4 13.38	12.78
	Lacaille 3725 . .	24	39.1	41.4	42.9	53.9	55.1	56.4	57.8	58.9	10.4	11.6	14.0	6 56.50	0.01	17.81	9 7 14.30	12.76
	Lacaille 3796 . .	25	5.4	7.5	9.0	20.0	21.0	22.3	23.7	24.9	36.2	37.6	40.1	15 22.52	— 0.01	17.81	9 15 40.32	12.86
	α Hydræ	26	23.8	25.8	26.9	36.7	37.7	38.9	40.0	41.1	51.0	52.0	54.0	20 38.90	0.00	17.81	9 20 56.71	14.25
	μ Leonis	27	29.2	31.6	33.0	43.7	44.8	46.0	47.5	48.6	59.3	0.7	3.1	44 46.14	+ 0.02	17.83	9 45 3.99	16.24
	Lacaille 4058 . .	28	25.9	28.4	29.6	40.5	41.5	42.9	44.1	45.4	56.3	57.5	59.9	47 42.91	— 0.01	17.83	9 48 0.73	13.35
	Lacaille 4076 . .	29	13.6	15.9	17.4	28.0	29.1	30.4	31.7	32.9	43.7	45.0	47.6	50 30.48	0.01	17.83	9 50 48.30	13.40
	Lacaille 4106 (1st *)	†30	47.8	49.2	50.7	51.9	54.8	. .	2.6	5.6	6.9	8.3	9.9	55 28.77	0.28	17.83	9 55 46.32	13.39
	Lacaille 4106 (2d *)	†31	12.7	14.6	16.0	26.7	28.0	29.5	31.2	32.2	42.6	44.1	46.3	55 29.45	— 0.01	17.83	9 55 47.27	13.39
	α Leonis	32	36.9	38.8	40.3	49.8	51.0	52.2	53.4	54.4	4.4	5.7	7.6	0 52.23	+ 0.01	17.84	10 1 10.08	15.20
	Lacaille 4183 . .	33	18.8	20.8	22.2	33.1	34.2	35.4	36.6	37.9	48.9	50.4	52.7	5 35.55	— 0.01	17.84	10 5 53.38	13.49
	Lacaille 4218 . .	34	20.4	22.7	23.8	34.7	35.7	37.3	38.6	39.6	50.7	52.0	54.4	9 37.26	— 0.01	17.84	10 9 55.09	13.53
	γ Leonis	35	57.0	59.0	0.2	10.4	11.5	12.7	14.0	15.1	25.4	26.5	28.7	12 12.77	+ 0.02	17.84	10 12 30.63	15.66
	45 Leonis	36	57.3	58.9	0.4	10.1	11.1	12.3	13.6	14.6	24.3	25.6	27.6	20 12.35	0.01	17.85	10 20 30.21	15.02
	ρ Leonis	37	8.1	10.2	11.4	20.9	22.0	23.1	24.3	25.6	35.3	36.7	38.6	25 23.29	+ 0.01	17.85	10 25 41.15	14.96
	Lacaille 4382 . .	38	10.8	12.7	14.2	24.5	25.6	27.2	28.5	29.5	40.2	41.5	43.8	32 27.14	— 0.01	17.86	10 32 44.99	13.83
	37 Sextantis . . .	39	30.2	32.2	33.4	43.0	44.0	45.2	46.4	47.4	57.2	58.3	0.2	38 45.23	+ 0.01	17.86	10 39 3.10	14.77
	l Leonis	40	35.7	37.4	38.7	48.6	49.7	50.8	52.0	53.0	2.9	4.2	6.3	41 50.85	+ 0.01	17.86	10 42 8.72	14.88
	Lacaille 4505 . .	41	55.8	57.9	59.2	9.8	11.0	12.2	13.6	14.7	25.6	27.0	29.4	47 12.38	— 0.01	17.86	10 47 30.23	13.92
	ρ¹ Leonis	42	23.0	24.9	26.0	35.5	36.4	37.7	39.0	40.0	49.6	50.9	52.8	54 37.80	+ 0.01	17.87	10 54 55.68	14.46
	χ Leonis	43	29.3	31.3	32.6	42.3	43.2	44.3	45.5	46.5	56.2	57.4	59.6	57 44.38	0.01	17.87	11 57 2.26	14.37
	δ Leonis	44	20.5	22.6	23.9	34.2	35.4	36.5	37.9	38.9	49.4	50.6	52.7	6 36.60	0.02	17.87	11 6 54.49	14.95
	φ Leonis	45	14.3	16.1	17.7	26.7	28.0	29.1	30.3	31.5	40.9	42.1	44.5	9 29.20	0.01	17.88	11 9 47.09	14.40
	σ Leonis	46	36.6	38.7	39.9	49.1	50.2	51.8	52.8	54.0	3.6	4.8	6.9	13 51.67	0.01	17.88	11 14 9.56	14.52
	ι Leonis	47	19.0	21.0	22.4	31.9	32.9	34.1	35.5	36.4	46.2	47.5	49.6	16 34.23	0.01	17.88	11 16 52.12	14.60
	Moon II . . .	48	56.7	58.8	0.0	9.8	10.7	12.3	13.4	14.4	24.1	25.4	27.2	39 12.07	0.01	17.89	11 39 29.97	. .
	β Virginis	49	6.0	7.8	9.1	18.4	19.5	20.7	21.9	23.0	32.6	33.9	35.7	43 20.78	+ 0.01	+17.90	11 43 38.69	— 14.30

15. Following of double.
30–31. Both stars very faint.

January 27, 17h. to 1h. n. = + 0.17 s.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 27, 8.1	+ 17.77	+ 0.035	+ 0.007

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. Jan. 27	o Virginis	1	45.9	47.6	48.8	58.4	59.4	0.7	1.8	3.0	12.8	14.1	16.0	58 0.77	+ 0.01	+17.90	11 58 18.68	− 14.14
R.	10 Virginis	2	12.4	14.2	15.3	25.1	26.0	27.0	28.3	29.4	39.0	40.6	42.3	2 27.24	+ 0.01	17.90	12 2 45.15	14.19
Y.	Venus II	3	24.0	26.0	27.4	37.7	38.7	40.0	41.4	42.4	52.9	54.1	56.3	44 40.08	− 0.06	17.98	17 44 58.00	− 0.58
	δ Ursæ Minoris	4	14.0	47.0	8.5	47.0	4.5	25.0	45.0	3.0	45.0	5.0	39.0	15 25.73	+ 2.98	18.01	. . . .	+ 103.43
	α Lyræ	5	41.9	44.6	46.2	58.2	59.5	1.2	2.6	3.9	16.3	17.7	20.4	32 1.14	0.15	18.02	18 32 19.31	− 7.44
	α Aquilæ	6	35.4	37.4	38.6	48.2	49.3	50.3	51.6	52.7	2.5	3.5	5.7	43 50.47	+ 0.03	18.09	19 44 8.59	11.54
28	Sun I	7	26.3	28.4	29.6	39.6	40.7	42.0	43.2	44.3	54.5	55.7	57.7	40 42.00	− 0.05	18.15	20 41 0.10	. .
	Sun II	8	43.4	45.7	46.9	57.0	58.1	59.3	0.5	1.6	11.8	13.2	15.3	42 59.35	0.05	18.15	20 43 17.45	. .
	α Piscis Australis	9	32.2	34.4	35.8	46.7	48.0	49.4	50.8	52.0	3.0	4.4	6.9	49 49.42	− 0.09	18.27	22 50 7.60	13.17
	α Pegasi	10	25.7	27.8	29.0	38.9	40.0	41.2	42.4	43.6	53.4	54.7	56.7	57 41.22	+ 0.05	18.28	22 57 59.55	12.11
	α Andromedæ	11	47.0	49.2	50.6	1.4	2.5	3.8	5.2	6.4	17.4	18.7	21.0	1 3.93	0.10	18.34	0 1 22.37	12.84
	Polaris	12	34.0	29.5	18.5	6.5	43.5	. .	. .	. .	. .	. .	. .	46 26.40	22 37.82	18.39	. . . .	80.29
	ε Tauri	13	8.3	10.4	11.8	21.8	22.8	24.2	25.4	26.6	36.7	38.0	40.1	20 24.19	0.03	18.59	4 20 42.81	16.05
	Lacaille 1480	14	45.0	47.2	48.6	59.5	0.7	2.0	3.4	4.7	15.6	17.0	19.4	24 2.10	0.04	18.60	4 24 20.66	11.13
	Hebe	15	14.9	16.8	18.0	27.6	28.6	29.9	31.0	32.0	42.7	43.0	45.0	27 29.95	+ 0.02	18.60	4 27 48.57	14.71
	* + 5° 53′	16	. .	. .	. .	. .	. .	. .	37.1	39.7	40.8	42.0	43.3	28 40.58	− 33.80	18.60	4 28 25.38	14.72
	* + 5° 52′	†17	. .	. .	. .	12.8	14.0	16.0	31.4	33.6	34.8	36.1	37.5	29 27.02	26.13	18.60	4 29 19.49	14.72
	Weisse (2) 719	18	. .	. .	. .	. .	. .	. .	49.8	52.4	53.8	55.1	56.6	33 53.54	36.35	18.61	4 33 35.80	16.53
	B. A. C. 1471	19	13.3	15.5	16.9	27.7	28.9	30.2	31.5	32.7	43.5	44.9	47.2	38 30.21	0.03	18.61	4 38 48.79	11.32
	B. A. C. 1482	20	26.1	28.5	29.7	40.5	41.8	43.1	44.4	45.5	56.5	57.9	0.2	40 43.11	0.04	18.61	4 41 1.68	11.27
	* + 22° 33′	21	48.0	50.2	51.5	1.8	2.9	4.1	5.3	6.5	17.0	18.2	20.5	45 4.18	0.04	18.62	4 45 22.84	16.65
	Weisse (2) 1012	22	. .	. .	. .	37.9	39.2	41.3	57.9	0.4	1.8	3.1	4.5	45 53.26	28.13	18.62	4 45 43.75	16.65
	O. Arg. S. 3494	23	44.9	47.2	48.6	59.5	0.6	1.9	3.2	4.5	15.7	16.9	19.2	49 2.02	0.04	18.62	4 49 20.60	11.19
	O. Arg. S. 3513	24	. .	. .	. .	. .	. .	. .	41.0	43.8	45.2	46.4	48.0	50 44.88	38.11	18.62	4 50 25.39	11.33
	* − 29° 6′	25	38.0	40.2	41.6	52.7	53.8	55.0	56.4	57.7	8.6	10.0	12.4	52 55.13	0.04	18.62	4 53 13.71	11.20
	O. Arg. S. 3576	26	. .	. .	. .	35.0	36.4	38.8	56.2	59.1	0.6	1.9	3.5	54 51.44	30.01	18.62	4 54 40.05	11.12
	Lacaille 1693	27	. .	. .	. .	37.4	38.5	39.8	41.1	42.4	53.7	55.1	57.4	56 45.68	5.85	18.63	4 56 58.46	10.90
	O. Arg. S. 3630	28	. .	. .	. .	11.3	12.4	13.7	15.0	16.2	27.2	28.5	30.9	58 19.40	5.63	18.63	4 58 32.40	11.36
	O. Arg. S. 3720	29	20.5	22.6	23.9	34.5	35.6	36.9	38.2	39.5	50.1	51.4	53.6	3 36.98	0.02	18.64	5 3 55.60	11.64
	B. A. C. 1615	30	41.5	43.8	45.1	56.3	57.3	58.8	0.0	1.3	12.6	13.9	16 2	5 58.80	0.02	18.64	5 6 17.42	11.06
	Lacaille 1774	31	30.8	33.0	34.3	45.3	46.4	47.8	49.1	50.4	1.7	2.9	5.3	9 47.91	0.02	18.64	5 10 6.53	11.14
	O. Arg. S. 3862	32	53.0	55.2	56.6	7.5	8.6	9.9	11.3	12.5	23.6	24.8	27.2	13 10.02	0.02	18.64	5 13 28.64	11.26
	O. Arg. S. 3884	33	. .	. .	. .	23.6	24.9	27.3	44.7	47.5	48.8	50.3	51.8	15 39.86	29.86	18.65	5 15 28.65	11.22
	Lacaille 1827	34	. .	. .	. .	. .	. .	. .	25.3	28.1	29.6	31.2	32.7	18 29.38	− 39.63	18.65	5 18 8.40	10.91
	Uranus I	35	56.1	58.2	59.7	9.7	10.9	12.3	13.6	14.7	25.2	26.5	28.6	22 12.32	+ 0.03	18.65	5 22 31.00	. .
	Uranus II	†36	33.5	35.0	36.2	37.7	40.1	. .	45.5	48.2	49.5	50.8	52.4	22 12.89	− 0.23	18.65	5 22 31.31	. .
	α Leporis	37	11.7	13.6	14.9	24.9	26.0	27.3	28.6	29.7	39.7	40.9	43.1	26 27.31	− 0.01	18.66	5 26 45.96	12.57
	ι Orionis	38	47.3	49.4	50.5	0.0	1.0	2.2	3.3	4.5	14.0	15.2	17.3	29 2.25	+ 0.01	18.66	5 29 20.92	14.29
	α Columbæ	39	8.8	11.4	12.6	24.3	25.3	26.8	28.1	29.5	41.1	42.5	45.0	34 26.85	− 0.03	18.67	5 34 45.49	10.66
	O. Arg. S. 4237	40	23.8	26.1	27.5	38.3	39.3	40.7	42.0	43.2	54.1	55.5	57.6	36 40.74	0.02	18.67	5 36 59.39	11.49
	Lacaille 1977	41	33.2	35.5	36.7	48.0	49.2	50.7	51.9	53.1	4.5	5.8	8.3	39 50.63	0.02	18.67	5 40 9.28	11.01
	Lacaille 1990	42	12.0	14.3	15.7	26.5	27.7	29.1	30.5	31.6	42.8	44.0	46.3	41 29.14	0.02	18.67	5 41 47.79	11.40
	O. Arg. S. 4355	43	34.9	37.1	38.5	49.0	50.2	51.6	52.8	54.0	4.8	6.0	8.3	43 51.56	0.02	18.67	5 44 10.21	11.68
	Lacaille 2033	44	10.4	12.7	14.2	25.1	26.2	27.6	28.8	30.1	41.2	42.6	45.0	46 27.63	0.02	18.67	5 46 46.28	11.32
	O. Arg. S. 4453	45	43.5	45.8	47.1	58.1	59.3	0.7	2.0	3.1	14.2	15.4	17.8	50 0.64	0.02	18.68	5 50 19.30	11.40
	O. Arg. S. 4481	46	22.0	24.3	25.8	36.5	37.8	39.0	40.4	41.6	52.7	53.9	56.4	51 39.13	0.02	18.68	5 51 57.79	11.42
	O. Arg. S. 4527	47	. .	. .	. .	43.5	44.9	47.3	4.5	7.3	8.6	10.1	11.6	54 59.72	29.82	18.68	5 54 48.58	11.39
	* [illegible] 30′	48	. .	46.5	47.9	58.9	59.9	1.4	2.5	3.7	14.8	16.1	. .	59 1.30	0.01	18.69	5 59 19.98	11.48
	* [illegible] 30′	49	22.9	24.5	25.8	27.2	29.9	. .	38.3	40.9	42.4	43.8	45.3	59 4.10	0.29	18.69	5 59 22.50	− 11.48
	δ Ursæ Minoris, S. P.	50	40.5	8.0	46.5	7.0	50.0	29.5	10.0	52.5	9.0	48.5	15.0	15 28.77	− 0.62	+18.70	. . . .	+ 103.33

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h	s.	s.	s.
Jan. 28, 4.1	+ 18.58	+ 0.068	+ 0.007

17. Another small star to the southward of this.
36. First limb the better observation.

		s.
January 28,	17h. to 1h. n. =	+ 0.17.
	4h. to 5h.	0.08.
	5h. to 6h.	0.05.
	6h. to 7h.	+ 0.03.
	7h. to 9h.	− 0.04.
	12h. to 14h.	− 0.03.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 28	* — 29° 56′ . .	1	49. 1	51. 4	52. 8	3. 9	5. 0	6. 3	7. 6	8. 9	20. 1	21. 5	23. 8	25 6. 40	− 0. 01	+ 18. 71	6 25 25. 10	− 11. 46
Y.	O. Arg. S. 5289 .	2	37. 7	40. 0	41. 1	51. 8	53. 0	54. 3	55. 7	56. 9	7. 4	8. 7	11. 0	27 54. 33	0. 01	18. 72	6 28 13. 04	11. 91
	Lacaille 2355 . .	3	16. 8	18. 9	20. 4	31. 3	32. 5	33. 7	35. 1	36. 4	47. 1	48. 8	51. 0	30 33. 85	0. 01	18. 72	6 30 52. 56	11. 64
	* — 27° 38′ . .	4	51. 9	54. 3	55. 7	6. 3	7. 5	8. 7	10. 0	11. 2	22. 1	23. 5	25. 9	33 8. 83	0. 01	18. 72	6 33 27. 54	11. 78
	51 Cephei	5	. .	. .	. .	. .	. .	57. 0	20. 0	41. 0	. .	. .	. .	36 19. 33	21. 88	18. 73	6 36 16. 18	156. 68
	O. Arg. S. 5654 .	6	4. 6	6. 8	8. 1	19. 0	20. 0	21. 6	22. 8	23. 9	35. 0	36. 2	38. 5	40 21. 50	0. 01	18. 73	6 40 40. 22	11. 70
	O. Arg. S. 5745 .	7	32. 1	34. 4	35. 9	46. 7	47. 9	49. 2	50. 6	51. 8	2. 8	4. 0	6. 3	43 49. 25	0. 01	18. 73	6 44 7. 97	11. 79
	* — 30° 15′ . .	8	21. 8	24. 1	25. 6	36. 5	37. 7	38. 9	40. 5	41. 6	53. 0	54. 3	56. 8	46 39. 17	0. 01	18. 74	6 46 57. 90	11. 56
	Lacaille 2519 . .	9	37. 9	40. 2	41. 6	52. 8	54. 0	55. 3	56. 7	57. 9	9. 4	11. 6	13. 2	48 55. 49	0. 01	18. 74	6 49 14. 22	11. 41
	Lacaille 2528 . .	10	12. 3	14. 5	16. 1	27. 2	28. 3	29. 8	31. 1	32. 5	43. 7	45. 0	47. 5	50 29. 82	0. 01	18. 74	6 50 48. 55	11. 42
	O. Arg. S. 5961 .	11	. .	. .	. .	. .	. .	. .	34. 0	36. 8	38. 2	39. 6	41. 0	52 37. 92	37. 88	18. 74	6 52 18. 78	11. 93
	Lacaille 2566 . .	12	23. 8	26. 0	27. 5	38. 5	39. 7	41. 2	42. 5	43. 7	55. 0	56. 4	58. 8	54 41. 19	0. 01	18. 74	6 54 59. 92	11. 53
	* — 30° 52′ . .	13	. .	. .	. .	. .	. .	. .	20. 7	23. 6	25. 0	26. 5	28. 0	55 24. 76	39. 21	18. 74	6 55 4. 29	11. 54
	γ Canis Majoris . .	14	. .	. .	. .	32. 2	33. 3	35. 5	51. 2	53. 8	55. 0	56. 4	57. 7	57 46. 89	− 26. 99	18. 75	6 57 8. 65	13. 22
	* — 30° 36′ . .	15	23. 8	26. 1	27. 5	38. 5	39. 5	41. 0	42. 3	43. 5	54. 5	56. 0	58. 3	12 41. 00	+ 0. 03	18. 76	7 12 59. 79	11. 55
	O. Arg. S. 6734 .	16	27. 2	29. 4	30. 7	41. 5	42. 6	44. 0	45. 4	46. 5	57. 5	58. 7	0. 9	17 44. 04	0. 03	18. 76	7 18 2. 83	12. 08
	Lacaille 2813 . .	17	56. 0	58. 3	59. 6	10. 3	11. 3	12. 7	13. 9	15. 1	26. 0	27. 4	29. 5	22 12. 74	+ 0. 03	18. 77	7 22 31. 54	12. 22
	* — 30° 27′ . .	18	. .	. .	. .	37. 2	38. 5	39. 8	41. 1	42. 4	53. 8	55. 0	57. 2	23 45. 62	− 5. 72	18. 77	7 23 58. 67	11. 80
	* — 29° 5′ . . .	19	50. 0	52. 4	53. 6	4. 6	5. 6	7. 1	8. 6	9. 7	20. 7	22. 0	24. 4	29 7. 15	+ 0. 03	18. 78	7 29 25. 96	12. 00
	α Canis Minoris . .	†20	39. 5	41. 5	42. 7	52. 3	53. 3	54. 4	55. 6	56. 7	6. 5	7. 6	9. 6	31 54. 52	0. 00	18. 78	7 32 13. 30	15. 07
	B. A. C. 2526 . .	21	22. 0	24. 0	25. 3	34. 9	36. 0	37. 0	38. 2	39. 3	48. 9	50. 3	52. 2	32 37. 10	0. 00	18. 78	7 32 55. 88	15. 27
	O. Arg. S. 7224 .	22	. .	. .	. .	. .	. .	. .	0. 6	3. 6	4. 9	6. 5	7. 9	35 4. 70	− 38. 76	18. 78	7 34 44. 72	11. 96
	O. Arg. S. 7286 .	23	10. 6	12. 9	14. 2	25. 3	26. 5	27. 9	29. 3	30. 3	41. 5	42. 9	45. 1	36 27. 86	+ 0. 03	18. 78	7 36 46. 67	11. 96
	O. Arg. S. 7386 .	24	11. 9	14. 2	15. 6	26. 4	27. 4	28. 7	30. 0	31. 2	42. 1	43. 4	45. 8	39 28. 79	0. 03	18. 78	7 39 47. 60	12. 26
	O. Arg. S. 7465 .	25	26. 8	29. 1	30. 5	41. 0	42. 2	43. 5	44. 8	46. 0	56. 9	58. 2	0. 5	42 43. 59	0. 03	18. 79	7 43 2. 41	12. 35
	O. Arg. S. 7636 .	26	19. 7	21. 9	23. 2	34. 1	35. 3	36. 5	37. 9	39. 0	49. 9	51. 2	53. 4	48 36. 55	0. 03	18. 80	7 48 55. 38	12. 29
	* — 32° 44′ . .	27	23. 0	25. 5	27. 0	38. 3	39. 5	40. 9	42. 4	43. 5	55. 2	56. 5	58. 9	51 40. 97	+ 0. 03	18. 80	7 51 59. 80	11. 81
	6 Cancri	28	36. 7	39. 1	40. 4	51. 1	52. 3	53. 8	55. 0	56. 3	7. 2	8. 5	10. 7	54 53. 75	− 0. 01	18. 80	7 55 12. 54	− 17. 59
	λ Ursæ Minoris, S. P.	29	22. 0	30. 0	27. 0	22. 0	. .	. .	. .	. .	. .	. .	. .	58 55. 25	− 29. 86	18. 81	7 58 44. 20	+ 188. 03
	Lacaille 5271 . .	30	27. 3	29. 3	30. 8	41. 4	42. 5	43. 9	45. 4	46. 5	57. 3	58. 8	1. 0	37 44. 02	+ 0. 02	19. 07	12 38 3. 11	14. 86
	Lacaille 5284 . .	31	. .	. .	. .	. .	. .	. .	16. 7	19. 8	21. 2	22. 6	24. 3	41 20. 92	− 39. 44	19. 08	12 41 0. 56	15. 02
	Lacaille 5301 . .	32	50. 2	52. 5	54. 0	5. 1	6. 3	7. 6	8. 8	10. 0	21. 3	22. 4	25. 1	44 7. 57	+ 0. 03	19. 08	12 44 26. 68	15. 00
	Lacaille 5302 . .	33	. .	. .	. .	. .	. .	. .	48. 0	50. 9	52. 4	53. 8	55. 5	44 52. 12	− 38. 99	19. 08	12 44 32. 21	15. 01
	B. A. C. 4345 . .	34	34. 6	36. 3	37. 9	39. 4	42. 2	. .	59. 8	2. 9	4. 3	6. 2	7. 9	49 21. 15	0. 33	19. 09	12 49 39. 91	12. 85
	α Canum Venaticorum	35	52. 9	55. 4	57. 2	19. 5	20. 0	22. 1	23. 7	25. 0	37. 4	38. 8	41. 5	49 22. 19	− 0. 02	19. 09	12 49 41. 26	12. 77
	Polaris, S. P. . .	36	11. 0	50. 0	0. 0	32. 0	52. 0	6. 0	19. 0	34. 0	2. 0	8. 0	51. 0	9 2. 27	+ 0. 94	19. 11	. . . .	79. 88
	ζ Virginus . . .	37	13. 3	15. 4	16. 5	26. 3	27. 1	28. 2	29. 5	30. 4	40. 2	41. 2	43. 5	27 28. 33	+ 0. 01	19. 12	13 27 47. 46	13. 72
	Venus	38	. .	. .	. .	42. 7	43. 9	45. 1	46. 5	47. 6	58. 0	59. 3	1. 4	49 50. 56	− 5. 41	18. 99	17 50 4. 14	0. 58
R.	α Lyræ	39	41. 0	43. 5	45. 2	57. 3	58. 5	0. 1	1. 5	2. 9	15. 2	16. 8	19. 5	32 0. 14	+ 0. 15	19. 01	18 32 19. 30	7. 46
	α Aquilæ	40	34. 4	36. 6	37. 7	47. 6	48. 5	49. 5	50. 7	51. 8	1. 5	2. 8	4. 8	43 49. 63	+ 0. 03	19. 03	19 44 8. 69	11. 55
29	Sun I	41	33. 0	34. 9	36. 3	46. 3	47. 5	48. 8	50. 0	51. 1	1. 3	2. 5	4. 7	44 48. 76	− 0. 06	19. 05	20 45 7. 75	. .
	Sun II	42	50. 3	52. 3	53. 8	3. 8	4. 9	6. 0	7. 3	8. 5	18. 8	19. 9	21. 9	47 6. 14	− 0. 06	19. 05	20 47 25. 13	. .
	β Cephei	43	47. 8	53. 3	56. 7	24. 7	27. 6	31. 4	34. 8	37. 7	5. 9	9. 3	15. 6	26 31. 35	+ 0. 51	19. 06	21 26 50. 92	0. 58
	α Andromedæ . .	44	46. 1	48. 3	49. 7	0. 3	1. 5	2. 9	4. 4	5. 6	16. 5	17. 8	20. 2	1 3. 03	0. 11	19. 11	0 1 22. 25	12. 83
Y.	Polaris	45	49. 0	7. 5	59. 0	22. 5	4. 0	54. 0	41. 5	23. 0	. .	. .	. .	5 32. 56	3 30. 04	19. 13	. . . .	79. 47
R.	Vesta	46	48. 0	50. 0	51. 2	1. 2	2. 1	3. 3	4. 5	5. 6	15. 6	16. 7	18. 6	10 3. 35	+ 0. 03	19. 16	3 10 22. 54	. .
	Weisse (2) 255 . .	47	. .	. .	. .	7. 1	8. 2	9. 3	10. 4	11. 6	21. 6	22. 8	25. 0	12 14. 50	− 5. 10	19. 16	3 12 28. 56	14. 98
	O. Arg. S. 2237 .	48	30. 4	32. 6	33. 8	43. 8	44. 8	46. 1	47. 4	48. 6	58. 5	59. 7	1. 8	16 46. 14	− 0. 02	19. 16	3 17 5. 28	12. 25
	Melpomene . . .	49	59. 7	1. 7	2. 8	12. 5	13. 4	14. 6	15. 7	16. 8	26. 5	27. 7	29. 8	23 14. 65	+ 0. 02	19. 17	3 23 33. 84	14. 28
	B. A. C. 1119 . .	50	11. 4	13. 5	14. 8	24. 6	25. 6	26. 9	28. 1	29. 3	39. 3	40. 5	42. 6	31 26. 96	+ 0. 04	+ 19. 17	3 31 46. 17	− 15. 26

20. Unsteady.

January 29, 17h. to 1h. n. = + 0.18 s.
29, 3h. to 6h. + 0.10.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Jan. 29, 0.8	+ 19.12	+ 0.018	+ 0.007

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Jan. 29	* — 28° 23'	1	. .	. .	. .	50.8	51.9	53.4	54.7	55.7	. .	. .	. .	34 53.30	0.00	+19.17	3 35 12.47	− 11.23
R.	η Tauri	2	. .	. .	. .	4.6	5.6	7.0	8.3	9.4	20.0	21.3	23.5	39 12.46	− 5.36	19.17	3 39 26.27	16.11
	27 Tauri	3	8.3	9.7	11.2	12.3	15.0	. .	20.5	23.2	24.4	25.9	27.3	40 47.78	− 0.21	19.17	3 41 6.74	16.13
	28 Tauri	4	32.4	34.6	35.9	46.3	47.4	48.6	50.0	51.2	1.7	3.0	5.2	40 48.75	+ 0.05	19.17	3 41 7.97	16.14
	B. A. C. 1195	5	13.8	16.0	17.1	27.8	28.8	30.2	31.4	32.6	43.2	44.4	46.6	42 30.17	+ 0.05	19.17	3 42 49.39	16.13
	O. Arg. S. 2623	6	30.7	32.7	34.0	44.5	45.6	46.8	48.2	49.3	59.8	1.1	3.2	47 46.90	− 0.04	19.17	3 48 6.03	11.74
	Uranus I	7	26.3	27.7	29.0	30.2	32.8	. .	38.4	40.7	42.3	43.5	45.0	22 5.59	− 0.22	19.20	5 22 24.57	. .
	Uranus II	8	49.5	51.7	52.9	3.3	4.4	5.6	6.8	8.0	18.6	19.8	22.0	22 5.69	+ 0.02	19.20	5 22 24.91	.
	α Leporis	9	11.2	13.2	14.4	24.4	25.4	26.6	28.0	29.0	39.2	40.4	42.5	26 26.75	− 0.02	19.20	5 26 45.93	12.56
	ε Orionis	†10	46.7	48.7	50.0	59.6	0.5	1.5	2.6	3.8	13.6	14.7	16.8	29 1.68	0.00	19.21	5 29 20.89	14.28
Feb. 3	ε Eridani	11	55.6	57.6	58.8	8.5	9.6	10.8	12.0	13.0	22.8	23.9	25.9	26 10.77	0.00	21.99	3 26 32.76	12.60
	Lacaille 1160	12	. .	. .	. .	18.5	19.7	21.2	22.6	23.7	35.3	36.5	39.0	32 27.06	− 5.84	21.98	3 32 43.20	10.76
	Weisse (2) 878	13	15.9	18.0	19.2	29.1	30.3	31.5	32.8	33.9	44.0	45.2	47.3	39 31.56	+ 0.01	21.98	3 39 53.55	15.29
	O. Arg. S. 2571	14	16.0	18.1	19.6	30.3	31.4	32.8	34.0	35.4	46.3	47.5	49.9	43 32.85	0.00	21.98	3 43 54.83	11.22
	O. Arg. S. 2623	15	27.6	29.9	31.0	41.3	42.5	43.9	45.2	46.4	56.8	58.2	0.3	47 43.92	0.00	21.98	3 48 5.90	11.65
	B. A. C. 1229	16	. .	. .	. .	59.2	0.6	2.7	18.4	20.8	21.9	23.4	24.8	50 13.98	− 26.82	21.98	3 50 9.14	12.58
	γ Eridani	17	5.3	7.1	8.6	18.3	19.4	20.6	21.8	22.8	32.8	34.0	36.1	51 20.62	0.00	21.98	3 51 42.60	12.62
	O. Arg. S. 2761	18	29.0	31.2	32.5	43.3	44.5	45.8	47.1	48.2	59.3	0.6	2.8	56 45.85	0.00	21.97	3 57 7.82	11.18
	O. Arg. S. 2796	19	12.5	14.8	16.0	25.9	27.0	28.3	29.6	30.7	41.0	42.4	44.6	59 28.44	0.00	21.97	3 59 50.41	11.94
	37 Eridani	20	. .	. .	. .	. .	. .	. .	54.5	57.0	58.2	59.6	0.9	3 58.04	− 33.93	21.97	4 3 46.08	13.26
	o¹ Eridani	21	38.3	40.1	41.3	50.9	52.0	53.2	54.4	55.5	5.2	6.5	8.5	4 53.26	0.00	21.97	4 5 15.23	13.28
	Uranus	22	17.1	19.2	20.7	31.2	32.2	33.5	34.8	35.8	46.3	47.6	50.0	21 33.49	+ 0.01	21.94	5 21 55.44	. .
	δ Orionis	23	28.9	30.7	32.0	41.3	42.3	43.5	44.6	45.9	. .	. .	. .	24 38.65	+ 4.99	21.94	5 25 5.58	14.30
	Weisse 603	24	. .	. .	. .	55.4	56.8	58.7	13.8	16.1	17.5	18.8	20.0	25 9.64	− 26.02	21.94	5 25 5.56	14.30
	ε Orionis	25	. .	. .	. .	56.7	57.8	58.9	0.0	1.1	10.8	11.9	14.0	29 3.90	4.96	21.94	5 29 20.88	14.23
	* — 1° 20'	26	. .	. .	. .	29.6	30.9	32.9	48.2	50.4	51.7	53.0	54.3	29 43.88	26.03	21.94	5 29 39.79	14.22
	Weisse 776	27	44.9	46.7	48.0	57.7	58.7	59.8	1.0	2.0	11.7	12.9	14.8	30 59.84	0.00	21.94	5 31 21.78	14.24
	Lacaille 1990	28	9.0	. .	12.5	23.4	24.5	25.9	27.2	28.4	39.4	. .	43.0	41 25.92	0.01	21.93	5 41 47.84	11.31
	O. Arg. S. 4395	29	59.7	1.7	3.2	. .	. .	. .	. .	. .	29.4	30.6	32.9	46 16.25	0.04	21.93	5 46 38.14	11.66
	O. Arg. S. 4453	30	40.2	42.5	44.0	54.9	55.9	57.3	58.8	59.8	11.1	12.3	14.7	49 57.41	0.01	21.93	5 50 19.33	11.33
	O. Arg. S. 4499	31	21.0	23.3	24.6	35.6	36.7	37.9	39.4	40.7	51.7	53.0	55.3	52 38.11	0.01	21.93	5 53 0.03	11.31
	O. Arg. S. 4527	32	9.6	11.7	13.0	24.0	25.2	26.5	28.1	29.1	40.3	41.6	43.7	54 26.61	− 0.01	21.93	5 54 48.53	11.31
	ν Orionis	33	13.4	15.3	16.6	26.6	27.6	28.8	30.2	32.3	41.0	42.1	44.5	59 28.95	+ 0.01	21.93	5 59 50.89	− 16.07
	δ Ursæ Minoris, S. P.	†34	. .	. .	. .	4.0	48.0	28.0	. .	49.5	8.0	46.5	12.5	13 53.79	+ 1 32.40	21.92	. . . .	+ 102.10
	O. Arg. S. 5251	35	2.6	4.7	6.3	17.1	18.1	19.5	20.9	22.1	33.2	34.5	36.8	26 19.62	− 0.01	21.92	6 26 41.53	− 11.18
	Lalande 12614	36	. .	. .	. .	. .	. .	. .	12.5	15.0	16.3	17.7	19.0	28 16.10	− 35.09	21.92	6 28 2.93	16.36
	γ Geminorum	37	16.1	18.2	19.6	29.5	30.6	31.7	33.0	34.1	44.4	45.5	47.6	29 31.85	+ 0.01	21.92	6 29 53.78	16.37
	* — 30° 20'	38	53.0	55.2	56.7	7.8	9.0	10.4	11.8	13.0	24.2	25.5	27.9	34 10.41	− 0.01	21.91	6 34 32.31	11.41
	* — 31° 31'	39	34.1	36.5	37.8	49.1	50.1	51.6	53.0	54.4	5.6	6.8	9.2	36 51.65	0.01	21.91	6 37 13.55	11.28
	O. Arg. S. 5615	40	. .	. .	. .	19.9	21.4	23.6	40.7	43.1	44.7	46.1	47.6	39 35.89	29.25	21.91	6 39 28.55	11.81
	Lacaille 2473	41	28.3	30.4	31.9	42.5	43.6	44.8	46.1	47.2	58.2	59.4	1.6	44 44.91	0.00	21.91	6 45 6.82	12.03
Y.	Moon II	42	53.8	56.0	57.3	7.8	8.9	10.2	11.6	12.7	23.4	24.6	26.9	3 10.29	− 0.07	22.59	18 3 32.81	. .
	α Lyræ	43	37.5	40.1	41.7	53.8	55.0	56.7	58.0	59.6	11.8	13.4	16.0	31 56.69	+ 0.17	22.62	18 32 19.48	7.60
4	α Piscis Australis	†44	27.7	29.9	31.1	42.2	43.3	44.6	46.1	47.4	58.7	59.8	2.2	49 44.82	− 0.11	22.87	22 50 7.58	13.15
	α Pegasi	45	21.0	23.0	24.4	34.1	35.2	36.5	37.6	38.7	48.7	50.0	52.1	57 36.48	+ 0.05	22.89	22 57 59.42	12.08
	α Andromedæ	46	42.1	44.5	45.9	56.6	57.8	59.1	0.5	1.7	12.6	14.0	16.3	0 59.19	0.11	22.94	0 1 22.24	22.77
	Polaris	†47	37.5	58.5	48.5	13.5	53.0	42.5	31.0	14.5	47.5	34.5	57.0	8 49.76	− 12.93	23.01	. . . .	75.10
	o¹ Eridani	48	37.0	39.0	40.3	49.9	50.9	52.0	53.4	54.3	4.0	5.1	7.3	4 52.11	0.01	23.18	4 5 15.28	13.26
	O. Arg. S. 2922	49	0.4	2.7	4.1	15.2	16.3	17.7	18.1	20.3	31.6	32.9	35.1	8 17.67	0.05	23.19	4 8 40.81	10.86
	O. Arg. S. 2930	50	3.2	5.4	6.9	18.0	19.2	20.5	21.9	23.1	34.3	35.7	38.0	9 20.56	− 0.05	+23.19	4 9 43.70	− 10.87

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 3, 5.0	+ 21.95	− 0.023	+ 0.005
4, 2.5	+ 23.09	+ 0.059	+ 0.005

10. Night cloudy.
34. Very much blurred.
44. Faint.
47. Steady.

s.
February 3, 3h. to 7h. n. = + 0.02.
3–4, 18h. to 2h. 0.20.
4, 4h. to 7h. + 0.10.
4, 18h. to 4h. 0.00.
February 4. Night cloudy, stars steady, wind south.

r.
February 4, 7h. Image east 0.06. Clamp east.
Image west 0.07. Clamp west.
Image east 0.06. Clamp east.
At 7h. 30m. slightly changed the Azimuth error.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 4	* — 30° 25′ . .	1	56. 3	58. 7	0. 2	. .	. .	. .	. .	. .	27. 7	28. 8	31. 0	11 13. 78	— 0. 09	+23. 19	4 11 36. 88	— 10. 87
	Weisse 620 . . .	†2	27. 9	30. 0	31. 4	41. 8	43. 0	44. 2	45. 6	46. 8	57. 5	58. 6	1. 0	28 44. 35	+ 0. 05	23. 21	4 29 7. 61	16. 76
	B. A. C. 1451 . .	3	. .	. .	. .	. .	. .	. .	40. 1	42. 6	43. 9	45. 4	46. 7	34 43. 74	— 35. 82	23. 21	4 34 31. 13	12. 09
	μ Eridani	4	5. 7	7. 8	9. 0	18. 5	19. 5	20. 7	21. 9	22. 9	32. 6	33. 9	35. 8	38 20. 75	0. 00	23. 22	4 38 43. 97	13. 79
	B. A. C. 1496 . .	5	55. 4	2. 4	6. 9	41. 4	44. 9	49. 5	53. 9	57. 5	33. 4	37. 0	44. 5	44 49. 71	+ 0. 37	23. 22	4 45 13. 30	35. 69
	B. A. C. 1510 . .	6	. .	. .	. .	7. 4	10. 8	15. 4	19. 9	23. 8	. .	. .	. .	47 15. 46	0. 53	23. 23	4 47 39. 22	35. 52
	B. A. C. 1565 . .	7	38. 5	48. 7	55. 4	45. 4	50. 7	56. 7	3. 4	9. 0	59. 8	5. 6	16. 7	59 57. 26	0. 54	23. 24	5 0 21. 04	47. 10
	Weisse (2) 111 . .	8	54. 7	57. 0	58. 5	9. 5	10. 5	11. 8	13. 3	14. 6	25. 7	27. 0	29. 5	5 12. 01	0. 06	23. 24	5 5 35. 31	17. 74
	β Tauri	9	3. 9	5. 3	7. 6	18. 4	19. 5	20. 9	22. 3	23. 5	34. 5	35. 7	38. 1	17 20. 88	0. 06	23. 26	6 17 44. 20	17. 58
	Uranus	10	10. 6	12. 8	14. 0	24. 5	25. 5	26. 8	28. 1	29. 3	39. 7	41. 0	43. 3	21 26. 87	+ 0. 05	23. 26	5 21 50. 18	. .
	α Leporis	11	6. 8	9. 0	10. 2	20. 3	21. 4	22. 6	23. 8	24. 8	35. 0	36. 3	38. 5	26 22. 61	— 0. 03	23. 26	5 26 45. 84	12. 49
	δ Ursæ Minoris, S. P.	12	37. 7	5. 5	45. 0	3. 7	47. 6	27. 2	7. 0	49. 0	7. 5	46. 0	12. 3	15 26. 23	— 1. 77	23. 31	. . . .	. .
	γ Geminorum . . .	13	14. 9	17. 0	18. 2	28. 2	29. 2	30. 4	31. 6	32. 8	42. 8	44. 0	46. 0	29 30. 46	+ 0. 03	23. 33	6 29 53. 82	16. 36
	* — 30° 20′ . .	14	. .	. .	. .	6. 4	7. 5	8. 9	10. 2	12. 5	22. 7	24. 0	26. 4	34 14. 82	— 5. 79	23. 33	6 34 32. 36	11. 40
	* — 31° 31′ . .	15	32. 7	35. 0	36. 4	47. 6	48. 8	50. 3	51. 6	52. 8	4. 1	5. 4	7. 9	36 50. 24	0. 06	23. 33	6 37 13. 51	11. 27
	α Canis Majoris . .	16	32. 5	34. 6	35. 9	45. 8	46. 8	48. 1	49. 4	50. 4	0. 5	1. 7	3. 8	38 48. 14	— 0. 02	23. 34	6 39 11. 46	12. 79
R.	Venus II . . .	17	23. 2	25. 2	26. 5	36. 8	37. 9	39. 0	40. 3	41. 4	52. 0	53. 2	55. 5	25 39. 18	+ 0. 01	23. 80	18 26 2. 99	0. 55
	α Lyræ	18	36. 5	39. 0	40. 6	52. 8	54. 2	55. 7	57. 3	58. 5	10. 9	12. 4	14. 9	31 55. 71	0. 01	23. 81	18 32 19. 53	7. 62
	Moon II . . .	†19	47. 2	49. 4	50. 6	1. 1	2. 0	3. 4	4. 7	6. 1	16. 6	17. 7	19. 9	8 3. 52	0. 01	23. 83	19 8 27. 36	. .
	α Aquilæ	20	29. 9	31. 8	33. 0	42. 6	43. 7	44. 9	46. 1	47. 1	56. 9	58. 1	0. 1	43 44. 93	0. 01	23. 85	19 44 8. 79	11. 66
	α Cygni	21	1. 9	4. 9	6. 4	19. 9	21. 3	22. 9	24. 6	26. 1	39. 7	41. 4	44. 3	36 23. 04	0. 01	23. 88	20 36 46. 93	7. 39
5	Sun I	22	59. 2	1. 1	2. 4	12. 3	13. 3	14. 5	15. 7	16. 9	27. 0	28. 2	30. 3	13 14. 63	0. 01	23. 90	21 13 38. 54	. .
	Sun II	23	14. 6	16. 6	18. 0	27. 9	28. 9	30. 0	31. 3	32. 4	42. 6	43. 6	46. 0	15 30. 17	0. 01	23. 90	21 15 54. 08	. .
	β Cephei	24	43. 1	48. 8	52. 6	20. 5	23. 3	27. 0	30. 4	33. 7	1. 5	5. 3	10. 9	26 27. 01	0. 01	23. 91	21 26 50. 93	0. 54
	α Andromedæ . .	25	41. 3	43. 4	44. 8	55. 6	56. 7	58. 2	59. 5	0. 7	11. 7	13. 0	15. 3	1 58. 20	0. 01	23. 99	0 2 22. 20	12. 76
Y.	Polaris	†26	45. 0	4. 5	54. 5	21. 5	0. 0	50. 5	39. 0	. .	. .	. .	. .	4 47. 86	4 4. 65	24. 03	. . . .	74. 30
R.	Vesta	27	25. 3	27. 2	28. 6	38. 4	39. 4	40. 5	41. 8	42. 9	52. 9	54. 1	56. 2	14 40. 66	0. 01	24. 10	3 15 4. 77	. .
	O. Arg. S. 2245 .	28	25. 3	27. 3	28. 5	36. 7	39. 8	41. 0	42. 4	43. 6	54. 1	55. 2	57. 4	17 41. 21	0. 01	24. 11	3 18 5. 33	11. 82
	Lacaille 1102 . .	29	23. 4	25. 6	27. 0	37. 9	39. 0	40. 4	41. 8	42. 8	54. 0	55. 4	57. 7	20 40. 45	0. 01	24. 11	3 21 4. 57	11. 05
	ε Eridani	†30	53. 6	55. 5	56. 6	6. 4	7. 4	8. 6	9. 9	10. 8	20. 7	21. 8	24. 0	26 8. 66	+ 0. 01	24. 11	3 26 32. 78	12. 58
	B. A. C. 1229 . .	31	. .	. .	. .	57. 0	58. 4	0. 3	16. 0	18. 4	19. 8	21. 0	22. 4	50 11. 66	— 26. 80	24. 12	3 50 8. 98	12. 56
	γ Eridani	32	2. 8	4. 8	6. 2	16. 0	17. 1	18. 3	19. 5	20. 6	30. 6	31. 8	33. 8	51 18. 32	+ 0. 01	24. 13	3 51 42. 46	12. 59
7	α Lyræ	33	34. 9	37. 5	39. 0	51. 1	52. 4	54. 0	55. 5	56. 8	9. 2	10. 7	13. 3	31 54. 04	0. 00	25. 51	18 32 19. 55	7. 69
	Venus II . . .	†34	. .	. .	. .	5. 3	6. 5	7. 8	9. 1	10. 2	20. 7	21. 9	24. 1	41 13. 20	— 5. 34	25. 52	18 41 33. 38	0. 55
	α Aquilæ	†35	. .	. .	. .	. .	. .	. .	14. 8	16. 2	17. 3	18. 6	19. 9	44 17. 36	34. 02	25. 56	19 44 8. 90	11. 72
8	Sun I	†36	. .	. .	. .	11. 5	12. 6	13. 8	14. 9	16. 2	26. 1	27. 4	29. 5	25 19. 00	— 5. 13	25. 63	21 25 39. 50	. .
	Sun II	†37	13. 2	15. 2	16. 5	26. 4	27. 5	28. 6	29. 9	31. 0	41. 0	42. 3	44. 4	27 28. 73	+ 0. 01	25. 63	21 27 54. 37	. .
	α Andromedæ .	38	39. 5	41. 7	43. 2	53. 8	55. 0	56. 3	57. 7	58. 8	9. 9	11. 1	13. 5	0 56. 41	0. 00	25. 72	0 1 22. 13	12. 73
	Polaris	†39	26. 0	22. 0	11. 0	58. 0	33. 0	. .	. .	. .	. .	. .	. .	46 18. 00	+22 30. 76	25. 76	1 9 14. 52	71. 65
	ε Orionis	40	. .	. .	. .	6. 6	7. 8	9. 8	25. 0	27. 4	28. 7	30. 0	31. 3	29 20. 82	— 26. 02	25. 92	5 29 20. 72	14. 17
	* — 29° 2′ . .	41	. .	. .	. .	22. 0	23. 5	25. 8	43. 1	45. 9	47. 5	48. 9	50. 4	32 38. 39	— 29. 63	25. 93	5 32 34. 69	11. 16
	O. Arg. S. 4213 .	42	56. 6	58. 7	0. 2	11. 3	12. 4	13. 7	15. 1	16. 4	27. 4	28. 7	31. 0	35 13. 77	+ 0. 13	25. 94	5 35 39. 48	11. 07
	* — 30° 41′ . .	43	11. 5	13. 6	15. 3	26. 2	27. 4	28. 8	30. 1	31. 3	42. 6	43. 8	46. 2	38 28. 80	+ 0. 13	25. 94	5 38 54. 87	10. 97
	Lacaille 1990 . .	44	. .	. .	. .	35. 1	36. 4	38. 7	55. 9	58. 8	0. 4	1. 8	3. 1	41 51. 28	— 29. 53	25. 94	5 41 47. 69	11. 24
	B. A. C. 1860 . .	45	32. 4	34. 5	35. 8	46. 1	47. 2	48. 6	49. 8	51. 0	1. 5	2. 7	4. 8	43 48. 58	+ 0. 10	25. 94	5 44 14. 62	11. 93
	α Orionis	46	9. 7	11. 7	12. 9	22. 6	23. 5	24. 8	26. 0	27. 0	36. 7	38. 0	40. 0	47 24. 81	— 0. 02	25. 94	5 47 50. 73	15. 16
	O. Arg. S. 4534 .	47	26. 0	28. 0	29. 6	40. 1	41. 3	42. 7	44. 0	45. 2	56. 2	57. 5	59. 9	54 42. 77	+ 0. 12	25. 95	5 55 8. 84	11. 40
	B. A. C. 1946 . .	48	6. 0	8. 2	9. 5	20. 1	21. 3	22. 7	24. 0	25. 2	35. 9	37. 2	39. 4	57 22. 68	0. 11	25. 95	5 57 48. 74	11. 62
	Lacaille 2126 . .	49	28. 9	30. 8	32. 3	42. 6	43. 8	45. 1	46. 3	47. 6	58. 2	59. 4	1. 8	59 45. 16	+ 0. 10	25. 95	6 0 11. 21	11. 88
	B. A. C. 1997 . .	50	. .	. .	. .	19. 6	20. 8	22. 2	23. 5	24. 5	35. 4	36. 7	38. 9	5 27. 70	— 5. 43	+25. 95	6 5 48. 22	— 11. 64

2. Faint; cloudy.
19. Just visible.
26. Through clouds.
30. Through clouds.
34. Through clouds.
35. Through clouds.
36–37. Through clouds.
39. Faint, blurred, and very unsteady.

			s.
February	5, 18h. to 4h. n.	=	0. 00.
	7–8, 18h. to 1h.		— 0. 02.
	8, 5h. to 9h.		— 0. 20.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 5, 23. 0	+ 23. 96	+ 0. 034	+ 0. 005
8, 3. 6	+ 25. 86	+ 0. 038	+ 0. 010

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 8	Lacaille 2190 . .	1	27.8	29.9	31.3	41.7	42.8	44.0	45.4	46.5	57.0	58.3	0.6	7 44.12	+ 0.10	+25.96	6 8 10.18	— 11.96
	Lacaille 2208 . .	2	55.4	57.5	58.8	9.3	10.3	11.6	12.9	14.2	24.5	26.0	28.3	11 11.71	+ 0.10	25.96	6 11 37.77	— 11.97
	δ Ursæ Minoris, S. P.	3	26.0	1.5	43.0	23.0	42.0	32.5	59.0	39.0	. .	. .	. .	22 33.25	— 7 10.05	25.97	. . . .	+ 101.07
	γ Geminorum . .	4	. .	. .	. .	25.5	26.5	27.7	28.9	30.0	40.0	41.4	43.4	29 32.92	5.22	25.97	6 29 53.67	— 16.34
	* — 28° 36′ . .	5	. .	. .	. .	33.3	34.6	37.0	54.3	57.0	58.3	59.7	1.1	31 49.41	29.51	25.97	31 45.87	11.54
	* — 23° 19′ . .	6	. .	. .	. .	20.1	21.2	22.4	23.7	24.9	35.3	36.7	38.7	36 27.88	5.29	25.97	6 36 48.56	12.18
	O. Arg. S. 5615 .	7	. .	. .	. .	59.9	0.9	2.4	3.6	4.7	15.6	16.9	19.3	39 7.91	— 5.46	25.98	6 39 28.43	11.76
	O. Arg. S. 5704 .	8	49.1	51.2	52.5	3.0	4.2	5.7	6.9	8.0	18.8	20.0	22.5	42 5.63	+ 0.11	25.98	6 42 31.72	11.88
	B. A. C. 2244 . .	9	. .	. .	. .	13.5	14.4	15.7	17.2	18.4	29.4	30.5	32.6	44 21.46	— 5.46	25.98	6 44 41.98	11.80
	O. Arg. S. 5790 .	10	3.5	5.7	7.2	17.9	19.0	20.4	21.7	22.8	33.6	34.8	37.3	45 20.35	+ 0.11	25.98	6 45 46.44	11.82
	Lacaille 2519 . .	11	30.3	32.6	34.0	45.3	46.5	47.9	49.3	50.4	1.9	3.2	5.5	48 47.90	0.13	25.98	6 49 14.01	11.30
	Lacaille 2528 . .	12	4.7	7.0	8.5	19.7	20.7	22.4	23.6	24.9	36.2	37.6	40.0	50 22.30	+ 0.13	25.98	6 50 48.41	11.32
	α¹ Geminorum . . .	13	49.2	50.9	52.3	53.6	56.4	. .	7.4	10.0	11.7	13.3	14.8	25 31.96	— 0.40	26.00	7 25 57.56	18.31
	α² Geminorum . . .	14	14.4	16.6	18.3	29.6	30.7	32.0	33.5	34.8	46.2	47.6	50.0	25 32.16	— 0.12	26.00	7 25 58.04	18.26
	Lacaille 2870 . .	15	12.1	14.2	15.8	26.3	27.4	28.7	29.9	31.0	41.7	43.2	45.4	30 28.70	+ 0.11	26.01	7 30 54.82	12.38
	O. Arg. S. 7239 .	16	31.9	34.5	35.7	46.6	47.6	49.0	50.3	51.6	2.4	3.6	6.0	34 49.02	0.12	26.01	7 35 15.15	12.15
	O. Arg. S. 7289 .	17	7.9	10.2	11.4	22.2	23.6	24.9	26.0	27.3	38.3	39.6	41.9	36 24.85	0.12	26.01	7 36 50.98	12.17
	Lacaille 2952 . .	18	27.2	29.3	30.8	41.2	42.2	43.6	44.8	45.9	56.4	57.8	59.9	39 43.55	0.10	26.01	7 40 9.66	12.57
	O. Arg. S. 7443 .	19	34.4	36.4	37.7	. .	49.3	50.6	51.8	. .	3.8	5.0	6.9	41 50.66	0.09	26.02	7 42 16.77	12.59
	* — 26° 4′ . . .	20	46.0	48.2	49.7	0.1	1.3	2.6	3.7	4.0	15.7	17.1	19.5	47 2.54	0.11	26.02	7 47 28.67	12.42
	* — 26° 0′ . . .	21	39.6	41.6	43.0	53.7	54.9	56.2	57.5	58.5	9.4	11.6	13.0	47 56.27	0.11	26.02	7 48 22.40	12.43
	* — 26° 4′ . . .	22	56.9	59.0	0.5	11.1	12.2	13.6	14.8	16.0	26.7	27.8	30.4	49 13.55	0.11	26.02	7 49 39.68	12.44
	Lacaille 3127 . .	23	9.5	11.5	13.1	23.5	24.7	26.2	27.3	28.4	39.2	40.4	42.9	58 26.06	+ 0.11	26.03	7 58 52.20	12.59
	ρ Argus	24	. .	. .	. .	19.2	20.1	21.4	22.8	23.8	34.5	35.7	38.0	1 26.94	— 5.32	26.03	8 1 47.65	12.66
	O. Arg. S. 8074 .	25	. .	. .	. .	41.9	43.3	45.5	1.9	4.7	5.9	7.5	8.7	2 57.42	— 28.39	26.03	8 2 55.06	12.74
	Lacaille 3229 . .	26	48.0	50.2	51.8	2.5	3.6	5.1	6.5	7.6	18.7	20.0	22.6	10 5.15	+ 0.13	26.03	8 10 31.31	12.28
	* — 26° 39′ . .	27	20.7	22.9	24.3	34.9	36.0	37.4	38.8	40.0	50.8	52.0	54.2	13 37.45	0.11	26.04	8 14 3.60	12.60
	Lacaille 3279 . .	28	48.8	51.0	52.4	3.2	4.3	5.8	7.2	8.3	19.2	20.6	22.8	16 5.78	0.12	26.04	8 16 31.94	12.48
	* — 26° 42′ . .	29	53.8	56.0	57.3	8.1	9.2	10.4	11.8	12.9	23.7	25.0	27.4	20 10.51	+ 0.11	26.04	8 20 36.66	12.66
	O. Arg. S. 8581 .	30	. .	. .	. .	4.5	5.5	6.9	8.2	9.4	20.3	21.6	23.8	22 12.52	— 5.46	26.04	8 22 33.10	12.64
	Lacaille 3356 . .	31	20.3	22.4	23.9	35.1	36.3	37.8	39.2	40.3	51.7	53.1	55.4	24 37.77	+ 0.13	26.04	8 25 3.94	12.25
	* — 31° 49′ . .	32	21.0	23.4	25.0	36.0	37.2	38.7	40.2	41.3	52.7	54.0	56.5	26 38.73	0.13	26.04	8 27 4.90	12.26
	B. A. C. 2910 . .	33	35.8	37.8	39.2	49.6	50.8	52.3	53.6	54.7	5.4	6.7	8.9	30 52.25	0.11	26.05	8 31 18.41	12.82
	O. Arg. S. 8806 .	34	50.9	53.2	54.4	5.0	6.2	7.4	8.7	9.9	20.5	21.9	24.1	32 7.47	0.11	26.05	8 32 33.63	12.83
	Lacaille 3474 . .	35	43.4	45.8	47.2	57.9	59.2	0.5	1.6	3.0	14.1	15.5	17.6	37 0.53	+ 0.12	26.05	8 37 26.70	12.62
	Weisse 1050 . .	36	23.5	24.5	26.7	36.3	37.4	38.5	39.7	40.7	50.5	51.6	53.7	40 38.46	— 0.01	26.05	8 41 4.50	15.30
	Weisse 1077 . .	37	45.9	47.9	49.0	58.5	59.6	0.8	2.0	3.0	2.6	3.7	5.9	42 0.81	— 0.01	26.05	8 42 26.85	15.30
	17 Hydræ	†38	11.2	13.0	14.4	23.8	25.0	26.0	27.2	28.3	38.1	39.2	41.2	48 26.13	+ 0.04	26.06	8 48 52.23	14.32
	Lacaille 3607 . .	39	2.9	5.0	6.5	17.0	18.2	19.6	20.9	22.1	33.0	34.2	36.6	51 19.64	0.11	26.06	8 51 45.81	12.92
	O. Arg. S. 9243 .	40	13.0	15.3	16.7	27.0	28.2	29.5	30.7	32.1	42.6	43.6	45.9	54 29.51	+ 0.10	26.06	8 54 55.67	13.22
	B. A. C. 3096 . .	41	. .	. .	. .	0.9	2.4	4.4	21.3	24.0	25.5	26.7	28.3	57 16.69	— 28.58	26.06	8 57 14.17	13.14
	κ Cancri	42	44.0	46.0	47.3	57.1	58.0	59.2	0.5	1.5	11.2	12.6	14.8	59 59.29	— 0.03	26.07	9 0 25.33	— 15.64
	δ Ursæ Minoris . .	†43	11.0	44.0	5.0	44.0	1.0	21.5	41.5	59.5	42.0	2.0	37.0	15 22.59	+ 0.08	26.40	18 15 49.07	+ 100.94
Y.	α Lyræ	44	. .	36.6	38.1	50.3	51.6	53.0	54.7	56.0	8.3	9.9	. .	31 53.17	0.03	26.41	18 32 19.61	— 7.72
	Venus II . . .	45	1.3	3.3	4.7	15.0	16.0	17.3	18.7	19.7	30.2	31.4	33.6	46 17.38	0.02	26.43	18 46 43.83	0.54
	α Aquilæ . . .	46	27.2	29.2	30.4	40.0	41.0	42 3	43.5	44.6	54.2	55.4	57.5	43 42.30	0.01	26.49	19 44 8.80	11.73
9	α Andromedæ . .	47	38.4	40.6	42.0	52.9	54.0	55.3	56.8	58.0	8.9	10.2	12.5	0 55.42	0.01	26.78	0 1 22.21	12.72
	Polaris	†48	20.0	9.5	55.0	32.0	. .	. .	. .	. .	. .	. .	. .	46 44.12	+22 3.12	26.84	1 9 13.08	70.81
	Weisse (2) 1261 .	49	15.2	17.3	18.5	28.5	29.6	30.8	31.9	33.1	43.2	44.5	46.6	58 30.84	— 0.01	27.05	3 58 57.88	15.48
	o¹ Eridani	50	33.0	34.9	36.3	45.8	46.8	48.0	49.3	50.3	0.0	1.2	3.2	4 48.07	+ 0.02	+27.06	4 5 15.15	— 13.18

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 9, 2.2	+ 26.93	+ 0.067	+ 0.015

38. Close double same R. A.
43. Through thin clouds.
48. Through clouds.

s.
February 8–9, 18h. to 2h. n. = — 0.01.
9, 3h. to 5h. 0.07.
5h. to 7h. — 0.16.

r.
February 9, 7h. Image east 0.09. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 9	Lalande 7931 . .	1	. .	. .	. .	46.8	47.9	49.3	50.5	51.7	. .	. .	. .	6 49.24	+ 0.10	+27.06	4 7 16.40	— 11.56
Y.	O. Arg. S. 2938 .	2	16.1	18.3	19.5	30.0	31.0	32.4	33.6	34.8	45.3	46.6	48.9	9 32.41	+ 0.05	27.06	4 9 59.52	11.56
	Weisse (2) 270 . .	3	58.2	0.4	1.7	11.7	12.7	14.0	15.3	16.3	26.5	27.7	29.9	13 14.04	— 0.01	27.06	4 13 41.09	15.70
	Weisse (2) 348 . .	4	. .	. .	. .	21.4	22.5	23.7	25.0	26.0	36.3	37.5	39.6	16 29.00	5.24	27.07	4 16 50.83	15.78
	Weisse (2) 376 . .	5	15.8	18.0	19.2	29.2	30.3	31.6	32.7	33.8	44 0	45.3	47.5	17 31.58	— 0.01	27.07	4 17 58.64	15.79
	O. Arg. S. 3082 .	6	3.3	5.4	6.8	17.1	18.2	19.6	20.7	21.9	32.3	33.7	35.9	20 19.54	+ 0.05	27.07	4 20 46.66	11.59
	* — 23° 40′ . .	7	21.3	23.5	24.8	35.3	36.4	37.5	38.8	39.9	50.5	51.8	54.0	24 37.62	0.05	27.08	4 25 4.75	11.57
	Lacaille 1509 . .	8	50.5	52.8	54.0	4.7	5.7	7.0	8.3	9.5	20.3	21.5	23.8	27 7.10	0.05	27.08	4 27 34.23	11.33
	B. A. C. 1450 . .	9	45.3	47.5	48.8	59.3	0.3	1.5	2.8	4.0	14.8	16.0	18.2	34 1.68	0.05	27.09	4 34 28.82	11.47
	B. A. C. 1471 . .	10	4.4	6.7	8.0	18.7	19.8	21.2	22.5	23.7	34.7	36.1	38.2	38 21.27	0.05	27.09	4 38 48.41	11.12
	O. Arg. S. 3389 .	11	55.5	57.8	59.1	10.1	11.4	12.8	14.0	15.3	26.3	27.6	30.0	41 12.72	0.06	27.10	4 41 39.88	10.89
	O. Arg. S. 3437 .	12	19.9	22.3	23.7	34.4	35.4	36.8	38.1	39.1	50.2	51.5	53.8	44 36.84	0.05	27.10	4 45 3.99	11.19
	O. Arg. S. 3494 .	13	36.0	38.4	39.7	50.6	51.7	53.0	54.4	55.6	6.7	8.0	10.3	48 53.13	0.06	27.10	4 49 20.29	10.98
	* — 29° 6′ . . .	14	39.3	31.5	32.9	43.6	44.8	46.2	47.6	48.8	59.8	1.0	3.4	52 46.26	+ 0.06	27.11	4 53 13.43	10.99
	11 Orionis	15	7.5	9.5	10.7	20.6	21.6	22.9	24.2	25.2	35.1	36.5	38.5	56 22.94	0.00	27.11	4 56 50.05	15.73
	O. Arg. S. 3630 .	16	. .	. .	. .	18.3	19.6	21.9	39.0	41.7	43.1	44.8	46.2	58 34.32	— 29.37	27.12	4 58 32.07	11.16
	O. Arg. S. 3691 .	17	35.7	38.0	39.5	50.5	51.5	52.9	54.3	55.4	6.5	7.8	10.2	1 52.94	+ 0.10	27.12	5 2 20.16	11.03
	Lacaille 1774 . .	18	21.5	24.0	25.3	36.4	37.5	38.9	40.2	41.4	52.7	54.0	56.3	9 38.93	0.11	27.13	5 10 6.17	10.94
	O. Arg. S. 3862 .	19	44.0	46.3	47.5	58.6	59.7	1.1	2.4	3.5	14.6	15.9	18.4	13 1.09	0.10	27.13	5 13 28.32	11.06
	O. Arg. S. 3884 .	20	43.9	46.3	47.6	58.5	59.6	1.0	2.4	3.6	14.8	16.0	18.3	15 1.09	+ 0.11	27.14	5 15 28.34	11.03
	β Tauri	21	. .	. .	. .	14.5	15.8	17.0	18.4	19.5	30.7	31.9	34.1	17 22.74	— 5.74	27.14	5 17 44.14	17.51
	* — 29° 27′ . .	22	1.4	2.7	4.2	5.5	8.2	. .	17.1	20.0	21.4	22.9	24.4	22 42.78	— 0.16	27.14	5 23 9.76	11.04
	* — 29° 27′ . .	23	31.4	33.6	35.0	46.0	47.1	48.6	49.9	51.1	2.1	3.4	5.8	22 48.55	+ 0.11	27.14	5 23 15.80	11.04
	* — 28° 31′ . .	24	. .	. .	. .	. .	. .	. .	1.2	3.9	5.3	6.8	8.2	25 5.08	— 38.20	27.14	5 24 54.02	11.17
	O. Arg. S. 4060 .	25	47.2	49.5	50.8	1.3	2.3	3.8	5.0	6.2	17.0	18.2	20.4	27 3.79	+ 0.09	27.15	5 27 31.03	11.56
	O. Arg. S. 4102 .	26	. .	. .	. .	31.0	32.2	33.4	34.8	36.0	46.8	48.2	50.5	29 39.11	— 5.48	27.15	5 30 0.78	11.35
	Lacaille 1916 . .	27	39.3	41.5	43.0	54.0	55.3	56.8	58.0	59.3	10.5	12.0	14.3	31 56.72	+ 0.11	27.15	5 32 23.98	10.86
	* — 25° 35′ . .	28	48.8	51.2	52.5	3.0	4.0	5.4	6.7	7.8	18.6	20.0	22.3	35 5.48	+ 0.09	27.16	5 35 32.73	11.58
	O. Arg. S. 4237 .	29	. .	. .	. .	45.2	46.5	48.9	6.0	8.7	10.0	11.5	13.0	37 1.22	— 29.30	27.16	5 36 59.08	11.31
	Lacaille 1977 . .	30	24.0	26.5	27.8	39.0	40.3	. .	43.0	44.3	55.5	57.0	59.4	39 41.68	+ 0.11	27.16	5 40 8.95	10.82
	O. Arg. S. 4355 .	31	25.9	28.2	29.5	40.2	41.2	42.6	44.0	45.1	55.9	57.1	59.3	43 42.64	0.10	27.17	5 44 9.91	11.52
	O. Arg. S. 4395 .	32	54.1	56.3	57.6	8.3	9.4	10.7	12.0	13.2	24.0	25.2	27.6	46 10.76	0.09	27.17	5 46 38.02	11.58
	* — 28° 56′ . .	33	36.2	38.4	39.9	50.8	51.9	52.3	54.6	55.8	6.9	8.2	10.5	48 52.32	0.10	27.17	5 49 19.59	11.23
	O. Arg. S. 4453 .	34	34.8	37.1	38.4	49.2	50.4	51.8	53.0	54.4	5.4	6.7	9.1	49 51.85	0.10	27.17	5 50 19.12	11.23
	O. Arg. S. 4481 .	35	13.2	15.4	16.8	27.7	28.9	30.2	31.6	32.7	43.7	45.0	47.4	51 30.24	+ 0.10	27.18	5 51 57.52	11.25
	O. Arg. S. 4534 .	36	. .	. .	. .	38.9	40.1	41.4	42.6	43.8	54.7	56.3	58.4	54 47.02	— 5.51	27.18	5 55 8.69	11.39
	γ Orionis	37	8.2	10.2	11.6	21.4	22.3	23.7	24.8	25.8	35.8	37.0	39.1	59 23.63	— 0.03	27.18	5 59 50.78	16.02
	O. Arg. S. 4680 .	38	. .	. .	. .	47.4	48.6	49.9	51.2	52.6	3.7	5.0	7.4	1 55.72	— 5.65	27.18	6 2 17.25	11.11
	Lacaille 2189 . .	39	57.3	59.6	0.9	11.8	12.9	14.2	15.5	16.7	27.7	29.0	31.3	7 14.26	+ 0.10	27.19	6 7 41.55	11.39
	O. Arg. S. 4851 .	40	26.3	28.6	30.1	40.8	42.0	43.2	44.6	45.7	56.7	58.0	0.4	8 43.31	+ 0.10	27.19	6 9 10.60	11.38
	O. Arg. S. 4861 .	41	. .	. .	. .	24.1	25.7	27.9	45.3	48.0	49.2	50.7	52.2	9 40.39	— 29.56	27.19	6 9 38.02	— 11.37
	δ Ursæ Minoris, S. P.	42	31.5	58.5	37.5	58.0	41.0	20.0	0.5	43.0	. .	. .	. .	16 43.75	1 21.66	27.20	6 15 49.29	+ 100.79
	O. Arg. S. 5410 .	43	. .	. .	. .	8.1	9.2	10.5	11.9	12.9	24.0	25.3	27.5	32 16.18	— 5.50	27.22	6 32 37.90	— 11.65
	O. Arg. S. 5519 .	44	31.7	33.9	35.3	46.0	47.2	48.6	49.8	51.0	2.1	3.4	5.5	35 48.59	+ 0.10	27.22	6 36 15.91	11.66
	ε Canis Majoris . .	45	34.8	37.1	38.5	49.3	50.4	51.8	53.2	54.4	5.3	6.7	9.0	52 51.86	0.10	27.24	6 53 19.20	11.67
	α Lyræ	46	33.1	35.5	37.3	49.3	51.7	52.2	53.8	55.0	7.3	8.8	11.5	31 52.32	0.01	. .	. . . .	7.74
R.	Venus II . . .	47	11.0	12.9	14.4	24.6	25.7	27.0	28.3	29.5	39.8	41.3	43.4	51 27.08	0.03	27.42	18 51 54.53	0.54
	Mercury II . . .	†48	38.8	40.8	42.0	52.0	53.2	54.6	55.9	56.9	7.1	8.3	10.5	52 54.55	0.03	27.46	19 53 22.04	— 0.28
10	Sun I	49	53.4	55.5	56.6	6.3	7.3	8.6	9.8	11.0	21.0	22.1	24.1	33 8.70	0.03	27.54	21 33 36.27	. .
	Sun II	†50	7.7	9.9	11.1	20.9	21.9	23.1	24.3	25.4	. .	. .	. .	35 18.04	+ 5.19	+27.54	21 35 50.77	. .

48. Faint and unsteady.
50. Both limbs serrated and flaming.

February 9–10, 18h. to 2h. n. = — 0.02 s.
10, 5h. to 7h. — 0.18.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 10, 2.7	+ 27.79	+ 0.048	+ 0.020

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 10	α Pegasi	1	16.4	18.3	19.7	29.6	30.5	31.8	33.0	34.0	44.1	45.3	47.3	57 31.82	+ 0.01	+27.61	22 57 59.44	— 12.06
	α Andromedæ . .	2	37.5	39.8	41.1	52.0	53.0	54.5	55.8	57.0	7.9	9.2	11.5	0 54.48	+ 0.01	27.66	0 1 22.15	12.71
	Moon I	3	57.6	59.6	1.0	. .	. .	. .	. .	. .	25.1	26.4	28.5	9 13.03	— 0.02	27.67	0 9 40.68	. .
Y.	Polaris	4	23.0	20.0	7.0	53.0	30.5	. .	. .	. .	. .	. .	. .	46 14.70	+22 30.38	27.70	1 9 12.78	70.03
R.	α Orionis	5	7.7	9.7	11.0	20.7	21.7	22.8	23.9	25.1	34.9	36.2	38.0	47 22.88	0.00	27.94	5 47 50.82	15.14
	* — 29° 57′ . .	†6	. .	. .	. .	10.9	12.2	14.5	32.1	34.8	36.2	37.7	39.2	50 27.20	— 29.89	27.94	5 50 25.25	11.09
	ν Orionis	7	. .	9.4	10.6	20.3	21.5	22.6	23.8	25.0	35.1	36.3	. .	59 22.73	— 0.02	27.95	5 59 50.66	16.01
	δ Ursæ Minoris, S. P.	†8	32.0	57.5	36.5	. .	. .	. .	. .	. .	59.0	39.0	5.5	15 18.25	+ 3.36	27.96	. . . .	. .
Y.	α Lyræ	9	32.2	34.7	36.3	38.5	39.7	41.4	42.8	44.1	6.4	8.0	10.6	31 41.34	0.01	28.28	18 32 19.63	7.77
	Venus II . . .	10	20.5	22.6	23.9	34.0	35.2	36.6	37.9	39.0	49.3	50.7	52.8	56 36.59	0.03	28.29	18 57 4.91	0.54
	α Aquilæ	11	25.4	27.6	28.7	38.4	39.3	40.5	41.7	42.8	52.4	53.7	55.7	43 40.56	0.02	28.33	19 44 8.91	11.77
	Mercury II . . .	12	58.4	0.4	1.7	11.8	12.9	14.2	15.4	16.5	26.8	28.0	30.3	55 14.22	0.03	28.34	19 55 42.59	0.28
11	Sun I	13	49.6	51.5	52.7	2.6	3.6	4.8	5.9	7.0	17.0	18.2	20.3	37 4.84	0.03	28.44	21 37 33.31	. .
	Sun II . . .	14	3.7	5.6	6.9	16.7	17.8	19.1	20.3	21.4	31.2	32.6	34.7	39 19.09	0.03	28.44	21 39 47.56	. .
	α Andromedæ . .	15	36.5	38.8	40.1	51.0	52.2	53.5	54.9	56.0	7.0	8.4	10.7	0 53.55	+ 0.01	28.57	0 1 22.13	12.70
	Polaris . . .	†16	20.5	16.5	3.0	51.0	27.5	. .	14.0	51.5	40.5	35.0	27.5	8 47.95	— 4.60	28.64	. . . .	69.32
		†17	36.0	56.5	47.0	13.0	52.0	40.0	30.0	12.0	44.5	34.0	55.0					
	Moon	†18	10.1	12.2	13.4	23.4	24.4	25.6	26.8	27.9	38.0	39.2	41.3	5 25.66	+ 0.02	28.64	1 5 54.32	. .
	η Piscium	19	29.3	31.4	32.6	42.4	43.5	44.7	45.9	47.0	57.0	58.2	0.3	23 44.75	0.02	28.65	1 24 13.42	13.57
	ο Piscium	20	29.9	32.0	33.2	42.8	43.8	45.0	46.2	47.2	57.0	58.2	0.3	37 45.05	+ 0.02	28.67	1 38 13.74	13.45
	Weisse 512 . . .	21	22 4	24.6	25.9	36.5	37.5	38.9	40.2	41.4	52.0	53.2	55.5	23 38.92	— 0.04	28.83	4 24 7.71	16.54
	Weisse 620 . . .	22	22.2	24.4	25.7	36.3	37.4	38.7	40.0	41.2	51.9	53.2	55.3	28 38.75	— 0.04	28.83	4 29 7.54	16.66
	Weisse (2) 713 . .	23	32.4	34.5	35.9	46.1	47.2	48.5	49.8	50.9	. .	. .	. .	32 43.16	+ 5.36	28.83	4 33 17.35	16.33
	Weisse (2) 719 . .	24	. .	. .	. .	4.4	5.4	6.8	8.0	9.1	. .	. .	. .	33 6.74	+ 0.02	28.83	4 33 35.59	16.32
	Weisse (2) 720 . .	25	. .	. .	. .	20.6	21.9	24.0	40.5	43.1	44.4	45.9	47.3	33 35.96	— 28.17	28.83	4 33 36.62	16.33
	Lalande 8923 . .	26	. .	. .	. .	48.9	49.9	51.1	52.3	53.3	. .	. .	. .	36 51.10	+ 0.08	28.84	4 37 20.02	13.66
	μ Eridani	27	0.0	2.0	3.2	12.7	13.7	14.9	16.1	17.1	26.7	27.9	30.0	38 14.94	0.03	28.84	4 38 43.81	13.69
	O. Arg. S. 3389 .	28	53.8	56.2	57.5	8.4	9.6	11.0	12.3	13.5	24.7	26.0	28.3	41 11.03	+ 0.10	28.84	4 41 39.97	10.85
	O. Arg. N. 5260 .	29	44.6	47.6	49.5	5.0	6.4	8.4	10.2	11.7	27.4	29.5	32.5	44 8.44	— 0.13	28.84	4 44 37.15	21.45
	O. Arg. S. 3494 .	30	34.3	36.6	38.1	48.9	50.0	51.3	52.8	54.0	5.0	6.4	8.6	48 51.45	+ 0.10	28.85	4 49 20.40	10.94
	O. Arg. S. 3513 .	31	. .	. .	. .	53.8	54.9	56.3	57.6	58.8	9.7	11.0	13.3	50 1.92	— 5.52	28.85	4 50 25.25	11.09
	* — 29° 5′ . .	32	27.6	29.8	. .	42.2	43.3	44.6	46.0	47.1	. .	59.4	1.8	52 44.64	+ 0.11	28.85	4 53 13.60	10.95
	* — 31° 34′ . .	33	. .	. .	. .	40.4	41.6	43.0	44.5	45.7	. .	. .	. .	55 43.04	0.16	28.85	4 56 12.05	10.64
	Lacaille 1693 . .	34	11.7	14.0	15.4	26.5	27.7	29.1	30.5	31.8	43.2	44.6	46.9	56 29.22	+ 0.10	28.86	4 56 58.18	10.65
	O. Arg. S. 3670 .	35	. .	. .	. .	56.2	57.6	59.8	17.2	20.0	21.4	22.6	24.2	1 12.38	— 29.57	28.86	5 1 11.67	11.02
	Weisse (2) 49 . .	36	10.8	13.0	14.4	25.5	26.6	28.0	29.4	30.5	41.7	43.2	45.5	3 28.05	0.05	28.86	5 3 56.86	17.62
	Weisse (2) 111 . .	37	49.0	51.3	52.7	3.7	4.9	6.3	7.7	8.8	20.1	21.3	23.7	5 6.32	— 0.05	28.86	5 5 35.13	17.63
	O. Arg. S. 3812 .	38	35.8	37.7	39.3	50.0	51.1	52.5	53.8	55.0	5.9	7.2	9.5	9 52.53	+ 0.09	28.86	5 10 21.48	11.21
	O. Arg. S. 3830 .	39	5.6	7.8	9.1	19.9	21.0	22.3	23.6	24.8	35.6	37.0	39.3	11 22.36	0.09	28.87	5 11 51.32	11.22
	O. Arg. S. 3866 .	40	14.2	16.5	17.7	28.7	29.8	31.2	32.4	33.5	44.5	45.8	48.0	13 31.12	+ 0.09	28.87	5 14 0.08	11.24
	O. Arg. N. 5930 .	41	14.4	19.7	23.7	51.8	54.8	58.4	2.2	5.2	33.5	36.9	43.3	22 58.54	— 0.33	28.88	5 23 27.09	31.93
	δ Orionis	42	. .	. .	. .	48.4	49.7	51.7	6.9	9.3	10.5	11.7	13.1	25 2.66	26.00	28.88	5 25 5.54	14.20
	O. Arg. N. 6031 .	43	36.3	41.5	45.6	11.5	14.3	17.5	20.7	23.5	50.5	53.8	59.0	29 17.65	0.31	28.89	5 29 46.23	30.69
	O. Arg. N. 6052 .	44	. .	. .	. .	18.6	21.4	25.0	28.2	30.9	. .	. .	. .	30 24.82	0.18	28.89	5 30 53.53	30.71
	O. Arg. N. 6159 .	45	14.9	21.0	24.9	54.4	57.7	1.3	5.0	8.4	38.0	42.1	48.5	36 1.47	— 0.34	28.89	5 36 30.02	33.22
	* + 25° 46′ . .	46	. .	. .	. .	8.1	9.2	10.4	11.7	12.9	. .	. .	. .	41 10.46	+ 0.01	28.90	5 41 39.37	17.26
	(* 94) W. . . .	47	13.6	15.8	17.1	27.7	28.9	30.2	31.5	32.7	43.4	44.7	46.9	43 30.23	— 0.04	28.90	5 43 59.09	17.27
	O. Arg. N. 6362 .	48	52.4	59.0	3.4	35.1	38.2	42.6	46.4	50.0	21.8	26.3	32.9	49 42.55	0.37	28.91	5 30 11.09	35.07
	O. Arg. S. 4527 .	49	. .	. .	. .	32.8	34.2	36.5	54.0	57.7	58.1	59.7	1.0	54 49.25	29.70	28.91	5 54 48.46	11.19
	(* 116) W. . . .	50	0.0	7.6	12.0	45.6	49.0	52.7	57.5	1.1	35.6	39.2	47.0	57 53.39	— 0.39	+28.91	5 58 21.91	— 36.53

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 11, 2.9	+ 28.74	+ 0.057	+ 0.020

6. Duplex.
8. Steady.
16–17. Not very steady.
18. Fine observation.

February 10–11, 18h. to 2h. n. = — 0.02 s.
4h. to 6h. 0.13.
6h. to 8h. — 0.18.
February 11. Stars steady; wind south.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 11	* — 28° 10′	1	56.0	58.1	59.6	10.4	11.5	12.7	14.0	15.2	26.3	27.6	29.9	9 12.85	+ 0.12	+28.93	6 9 41.90	— 11.41
	* — 28° 57′	2	11.5	13.8	15.2	26.2	27.3	28.6	29.9	31.1	42.2	43.5	45.9	12 28.65	+ 0.12	28.93	6 12 57.70	11.33
	O. Arg. S. 4961	3	. .	. .	. .	. .	. .	. .	0.0	2.7	4.2	5.5	7.2	14 3.92	— 38.33	28.93	6 13 54.52	11.34
Y.	Dorpat 900 (1st *)	4	51.9	53.9	55.1	. .	. .	. .	. .	. .	18.8	21.1	22.0	16 7.13	— 0.03	28.93	6 16 36.03	14.95
	Dorpat 900 (2d *)	5	. .	. .	. .	5.1	6.1	7.4	8.5	9.5	. .	. .	. .	16 7.32	+ 0.06	28.93	6 16 36.31	14.95
	Dorpat 919 (1st *)	6	10.4	11.7	13.9	14.1	16.4	. .	. .	. .	. .	. .	. .	21 13.30	33.46	28.94	6 22 15.70	13.79
	Dorpat 919 (2d *)	7	31.8	33.8	35.1	45.0	45.9	47.1	48.3	49.4	58.8	59.9	2.0	21 47.01	+ 0.04	28.94	6 22 15.99	13.79
	γ Geminorum	8	9.3	11.3	12.6	22.5	23.6	24.8	26.0	27.1	37.1	38.3	40.5	29 24.83	— 0.03	28.94	6 29 53.74	16.30
	O. Arg. S. 5415	9	59.9	2.0	3.4	13.9	14.9	16.3	17.5	18.6	29.2	30.4	32.6	32 16.25	+ 0.10	28.95	6 32 45.30	12.11
	O. Arg. S. 5450	10	13.5	15.7	17.2	27.4	. .	29.8	. .	32.1	42.8	44.0	46.2	33 29.86	0.11	28.95	6 33 58.92	12.10
	α Canis Majoris	11	. .	28.8	30.1	40.0	41.1	42.3	43.4	44.7	54.7	56.0	. .	38 42.34	0.08	28.95	6 39 11.37	12.74
	O. Arg. S. 5704	12	45.9	48.1	49.5	0.0	1.2	2.5	3.7	5.0	15.7	17.0	19.3	42 2.54	+ 0.11	28.96	6 42 31.61	11.84
	O. Arg. S. 5745	13	. .	. .	. .	. .	. .	. .	13.1	15.8	17.2	18.7	20.1	44 16.98	— 38.16	28.96	6 44 7.78	11.61
	* — 28° 32′	14	53.9	56.2	57.6	8.4	9.4	10.8	12.3	13.4	24.4	25.8	28.1	45 10.94	+ 0.12	28.96	6 45 40.02	11.61
	Lacaille 2519	15	27.2	29.8	31.1	42.3	43.4	44.9	46.2	47.5	58.9	0.2	2.5	48 44.91	0.13	28.96	6 49 14.00	11.27
	Lacaille 2528	16	1.8	4.2	5.5	16.7	17.8	19.3	20.6	21.8	33.1	34.6	36.9	50 19.30	0.13	28.96	6 50 48.39	11.28
	Lacaille 2549	17	10.8	13.2	14.6	25.7	26.7	28.1	29.6	30.7	42.0	43.3	45.8	52 28.23	0.13	28.97	6 52 27.33	11.43
	Lacaille 2566	18	13.2	15.6	17.0	. .	. .	. .	. .	. .	44.6	46.0	48.4	54 30.80	0.08	28.97	6 54 59.85	11.40
	* — 30° 53′	19	. .	. .	. .	32.4	33.4	34.9	36.3	37.6	. .	. .	. .	54 34.92	+ 0.19	28.97	6 55 4.08	11.41
	O. Arg. N. 7623	20	56.9	6.0	12.3	59.9	4.9	11.0	17.2	22.4	10.5	16.5	27.0	4 11.33	— 0.81	28.98	7 4 39.50	46.34
	O. Arg. N. 7681	21	. .	. .	. .	18.0	23.2	29.9	35.7	41.6	. .	. .	. .	7 29.68	0.60	28.98	7 4 58.06	48.20
	O. Arg. N. 7755	22	10.6	21.0	27.4	16.9	21.8	28.2	34.6	40.4	30.4	36.4	46.7	11 28.58	0.84	28.99	7 11 56.73	47.51
	* — 31° 1′	23	39.9	42.3	43.7	54.7	55.9	57.2	58.7	59.9	11.1	12.5	14.8	16 57.34	0.13	28.99	7 17 26.46	11.59
	O. Arg. S. 6858	24	38.9	41.1	42.5	53.3	54.5	55.8	57.2	58.2	9.3	10.6	12.9	21 55.85	0.12	28.99	7 22 24.96	11.97
	O. Arg. S. 6941	25	52.5	54.0	55.4	56.7	59.2	. .	7.8	10.5	11.9	12.4	14.8	24 33.52	— 0.15	29.00	7 25 2.37	11.94
	O. Arg. S. 6946	26	20.3	22.5	23.8	34.7	35.8	37.3	38.6	39.8	50.8	52.0	54.3	24 37.26	+ 0.12	29.00	7 25 6.38	11.94
	* — 29° 5′	27	. .	. .	. .	54.3	55.5	56.7	58.0	59.2	10.4	11.7	14.0	29 2.48	— 5.55	29.00	7 29 25.93	11.92
	* — 30° 59′	†28	32.4	34.6	36.0	47.2	48.4	49.6	51.1	52.4	3.7	5.0	7.0	30 49.76	+ 0.13	29.00	7 31 18.89	11.73
	O. Arg. S. 7224	29	58.3	0.5	1.8	12.8	14.0	15.3	16.6	17.9	29.2	30.5	32.8	34 15.43	+ 0.13	29.01	7 34 44.57	11.89
	β Geminorum	30	16.3	18.5	19.8	30.8	31.8	33.2	34.7	35.9	46.8	48.1	50.4	36 33.31	— 0.07	29.01	7 37 2.25	17.54
	O. Arg. S. 7376	31	1.5	3.7	5.2	15.9	17.0	18.4	19.6	20.8	31.7	33.1	35.3	39 18.38	+ 0.12	29.01	7 39 47.51	12.21
	O. Arg. S. 7464	32	. .	. .	. .	29.1	30.2	31.5	32.9	34.6	. .	. .	. .	42 31.54	0.16	29.01	7 43 0.71	12.30
	O. Arg. S. 7465	33	16.6	18.7	20.1	. .	. .	. .	. .	. .	46.6	47.9	50.2	42 33.35	+ 0.07	29.01	7 43 2.43	12.30
	ϕ Geminorum	34	27.3	29.5	30.9	41.5	42.7	44.0	45.3	46.5	57.3	58.6	0.9	44 44.05	— 0.07	29.02	7 45 13.00	17.54
	* — 30° 32′	35	7.5	9.9	11.2	22.4	23.5	24.8	26.3	27.4	38.7	40.0	42.3	49 24.91	+ 0.13	29.02	7 49 54.06	11.93
	* — 32° 44′	36	12.8	15.2	16.7	27.9	29.0	30.6	31.9	33.1	44.8	46.1	48.1	51 30.56	0.14	29.02	7 51 59.72	11.75
	* — 28° 1′	37	14.0	16.2	17.6	28.4	29.6	30.8	32.2	33.5	44.4	45.8	48.1	53 30.96	0.12	29.02	7 54 0.10	— 12.26
	λ Ursæ Minoris, S. P.	38	. .	. .	. .	9.0	19.0	15.0	13.0	17.0	. .	. .	. .	58 14.60	5.87	29.03	. . . .	+ 304.01
	α Lyræ	†39	31.3	33.8	35.5	47.6	48.7	50.4	51.8	53.4	5.6	7.0	9.8	31 50.45	0.02	29.23	. . . .	— 7.80
R.	Venus II	†40	30.0	32.2	33.4	43.6	44.8	46.0	47.3	48.5	59.0	0.2	2.4	1 46.13	0.03	29.23	19 2 15.39	0.53
12	Sun I	†41	23.2	24.6	26.0	27.2	29.6	. .	31.7	34.1	35.4	36.8	38.0	41 0.66	0.22	29.28	21 41 29.72	. .
	Sun II	†42	9.1	1.0	2.3	12.0	13.3	14.4	15.6	16.0	26.7	27.9	29.9	43 14.38	0.02	29.28	21 43 43.68	. .
Y.	Polaris	†43	. .	. .	. .	9.0	48.5	39.0	28.0	12.0	. .	. .	. .	8 39.30	2.35	29.35	. . . .	68.66
	α Arietis	44	46.1	48.3	49.6	0.0	1.0	2.3	3.6	4.8	15.3	16.5	18.7	59 2.38	0.02	29.37	. . . .	14.49
	Moon	45	55.8	57.8	59.1	9.1	10.2	11.5	12.7	13.8	23.9	25.2	27.4	1 11.50	0.02	29.37	2 1 40.89	. .
R.	Lacaille 1738	46	37.8	39.8	41.3	51.9	53.0	54.2	55.6	56.7	7.4	8.8	11.0	4 54.32	0.10	20.26	5 5 14.68	11.34
	β Orionis	47	26.4	28.5	29.9	39.4	40.4	41.6	42.9	43.8	53.8	55.0	56.9	7 41.69	+ 0.04	20.26	5 8 1.99	12.28
	β Tauri	48	6.9	9.0	10.7	21.4	22.5	23.9	25.0	26.4	37.5	38.7	40.9	17 23.90	— 0.06	20.27	5 17 44.11	17.47
	Uranus	49	. .	. .	. .	8.2	9.8	11.7	28.4	30.8	32.2	33.8	35.0	21 23.74	— 28.37	20.27	5 21 15.64	. .
	δ Orionis	50	30.3	32.3	33.5	43.0	43.9	45.1	46.3	47.4	. .	. .	. .	24 40.22	+ 5.01	+20.28	5 25 5.51	— 14.18

28. Blurred.
39. Through thick haze.
40. Faint, through haze.
41–42. Through clouds.
43. Faint, through clouds.

February 11–12, 18h. to 2h. n. = — 0.01 s.
12, 5h. to 8h. — 0.16.
February 12, 2h. 30m. Shortened the pendulum of the clock 0.8 of a division.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 12, 22.7	+ 29.30	+ 0.019	+ 0.020
6.1	20.31	0.050	. .
21.6	+ 20.75	+ 0.026	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m s.	s.	h. m. s.	s.
Feb. 12	Weisse 603	1	. .	. .	. .	57.0	58.2	0.3	15.6	17.8	19.1	20.4	21.6	25 11.25	− 26.00	+20.28	5 25 5.53	− 14.18
R.	δ Ursæ Minoris, S. P.	†2	40.0	7.5	46.0	5.5	48.5	28.5	8.0	51.0	8.5	48.0	14.5	15 27.82	+ 2.36	20.32	. . . .	+ 99.92
	O. Arg. S. 5251	3	3.9	6.1	7.7	18.3	19.6	20.9	22.3	23.6	34.6	35.9	38.3	26 21.02	+ 0.11	20.33	6 26 41.46	− 11.38
	γ Geminorum	4	17.7	19.9	21.2	31.0	32.1	33.3	34.6	35.6	45.7	46.9	49.0	29 33.36	− 0.03	20.33	6 29 53.66	16.30
	Lacaille 2366	5	. .	. .	. .	38.9	40.3	42.4	59.8	2.5	3.9	5.4	6.9	31 55.01	29.52	20.33	6 31 45.82	11.49
	Lacaille 2388	6	. .	. .	. .	9.3	10.4	11.7	13.2	14.3	25.5	26.9	29.3	34 17.5[illegible]	− 5.61	20.33	6 34 32.30	11.30
	O. Arg. S. 5574	7	12.7	14.9	16.1	27.3	28.3	29.7	31.0	32.3	43.3	44.6	47.0	37 29.75	+ 0.11	20.34	6 37 50.20	11.47
	O. Arg. S. 5665	8	24.0	26.4	27.6	38.6	39.6	41.1	42.4	43.6	54.7	56.0	58.5	40 41.14	+ 0.11	20.34	6 41 1.59	11.46
	* — 28° 34′	9	. .	. .	. .	54.1	55.6	57.8	14.5	17.0	18.4	20.0	21.3	44 9.84	− 29.51	20.34	6 44 0.67	11.58
	O. Arg. S. 5745	10	30.8	32.9	34.4	44.7	45.8	47.1	48.4	49.4	. .	. .	. .	43 41.69	+ 5.78	20.34	6 44 7.81	11.58
	O. Arg. S. 5906	11	19.4	21.6	22.9	33.9	34.9	36.4	37.8	38.9	50.0	52.2	53.6	49 36.51	0.11	20.35	6 49 56.97	11.59
	ε Canis Majoris	12	41.6	43.8	45.3	56.0	57.2	58.7	0.0	1.2	12.0	13.5	15.9	52 58.65	+ 0.11	20.35	6 53 9.11	11.64
	O. Arg. S. 6004	13	. .	. .	. .	23.5	24.5	25.9	27.4	28.5	39.5	41.0	43.3	53 31.70	− 5.54	20.35	6 53 46.51	11.64
	* — 31° 0′	14	48.7	51.0	52.3	3.6	4.7	6.0	7.5	8.7	19.9	21.3	23.6	17 6.12	+ 0.12	20.37	7 17 26.61	11.58
	* — 31° 3′	15	44.3	46.6	48.0	59.2	0.4	1.7	3.2	4.3	15.5	16.9	19.4	18 1.77	+ 0.12	20.37	7 18 22.26	11.58
	α¹ Geminorum	16	54.7	56.5	57.9	59.2	2.0	. .	12.9	15.7	17.2	18.6	20.3	25 37.50	− 0.36	20.38	7 25 57.52	18.28
	α² Geminorum	17	20.1	22.3	23.9	35.0	36.1	37.7	39.0	40.2	51.7	53.1	55.5	25 37.69	0.08	20.38	7 25 57.99	18.23
Y.	α Lyræ	18	39.9	42.5	44.2	56.3	57.5	59.1	0.5	2.0	14.3	15.7	18.4	31 59.13	− 0.01	20.67	18 32 19.79	7.82
	α Aquilæ	19	33.0	35.1	36.2	45.9	46.8	48.1	49.3	50.3	0.1	1.3	3.3	43 48.13	+ 0.01	20.70	19 44 8.84	11.81
13	Sun I	20	49.0	51.0	52.2	2.0	3.0	4.3	5.5	6.6	16.5	17.6	19.8	45 4.32	0.03	20.75	21 45 25.10	18.28
	Sun II	21	2.7	4.8	6.0	15.7	16.8	18.1	19.3	20.4	30.2	31.4	33.5	47 18.08	0.03	20.76	21 47 38.87	18.23
	α Pegasi	22	23.0	25.2	26.4	36.2	37.4	38.6	39.7	40.8	50.8	51.9	54.1	57 38.55	0.01	20.79	22 57 59.35	12.06
	Polaris	23	27.0	24.0	12.0	0.0	34.0	. .	22.0	1.0	48.5	36.0	19.0	57 34.35	11 15.30	20.81	. . . .	. .
	η Piscium	24	37.0	39.1	40.4	50.2	51.1	52.4	53.6	54.7	4.7	5.9	8.0	23 52.46	0.01	20.85	1 24 13.32	13.55
R.	α Ceti	25	35.7	37.7	39.0	48.4	49.4	50.6	51.7	52.8	2.5	3.7	5.7	54 50.65	0.02	20.86	. . . .	13.65
	Moon I	26	38.9	40.9	42.3	52.5	53.6	54.9	56.0	57.2	7.6	8.9	11.0	56 54.89	0.01	20.86	2 57 15.76	. .
	δ Arietis	27	16.0	18.1	19.5	29.6	30.6	31.8	33.1	34.3	44.4	45.7	47.9	3 31.91	0.01	20.86	. . . .	15.04
	ζ Arietis	28	29.9	31.9	33.3	43.5	44.6	45.8	47.1	48.2	58.5	59.8	2.0	6 45.87	0.01	20.86	3 7 6.74	15.16
14	δ Arietis	29	15.5	17.6	18.8	28.9	30.0	31.2	32.5	33.6	43.9	45.1	47.2	3 31.30	0.01	21.46	. . . .	15.03
	ζ Arietis	30	29.3	31.5	32.8	43.0	43.9	45.2	46.4	47.6	57.9	59.2	1.4	6 45.29	0.01	21.47	3 7 6.77	15.15
	Moon I	31	0.4	2.4	3.7	14.2	15.3	16.4	17.8	18.9	29.4	30.6	32.7	52 16.51	0.01	21.48	3 52 38.00	. .
	δ¹ Tauri	32	30.3	32.2	33.7	43.6	44.7	46.0	47.2	48.3	58.3	59.5	1.8	14 45.96	0.01	21.49	4 15 7.46	15.54
	ε Tauri	33	5.4	7.3	8.5	18.6	19.7	21.0	22.2	23.3	33.5	34.8	37.0	20 21.03	0.01	21.50	. . . .	15.80
16	Sun I	34	29.7	31.7	33.0	42.5	43.6	44.9	46.2	47.3	57.1	58.4	0.4	56 44.98	0.05	22.47	21 57 7.50	. .
Y.	Sun II	35	42.7	44.8	46.0	55.7	56.8	58.0	59.3	0.3	10.0	11.4	13.4	58 58.04	0.05	22.47	21 59 20.56	. .
	α Pegasi	36	21.4	23.5	24.8	34.5	35.6	36.9	38.0	39.1	49.2	50.4	52.5	57 36.90	+ 0.01	22.49	22 57 59.40	12.06
	α Andromedæ	37	42.6	44.9	46.3	57.0	58.2	59.6	0.9	2.2	13.1	14.4	16.6	0 59.62	− 0.01	22.51	0 1 22.12	12.67
	Polaris	†38	. .	. .	. .	16.0	56.0	48.0	36.0	17.0	. .	. .	. .	8 46.60	0.50	22.53	. . . .	66.22
	ι Tauri	†39	21.3	23.6	24.9	35.1	36.0	37.4	38.7	39.9	50.3	51.6	53.6	54 37.49	0.04	22.60	4 55 0.05	16.31
	m Tauri	†40	48.4	50.4	51.7	1.8	3.0	4.2	5.4	6.5	16.7	17.9	20.0	59 4.18	0.03	22.60	4 59 26.75	16.02
	Lacaille 1753	41	. .	. .	. .	1.4	2.6	4.0	5.3	6.5	17.4	18.8	20.8	7 9.60	5.45	22.60	5 7 26.75	11.12
	* — 27° 19′	42	. .	. .	. .	. .	. .	. .	42.0	44.6	46.2	47.6	49.1	7 45.90	37.74	22.60	5 7 30.76	11.12
	n Tauri	43	29.7	31.9	33.2	43.6	44.6	45.8	47.0	48.3	58.7	0.0	2.1	10 45.90	0.04	22.60	5 11 8.46	16.50
	β Tauri	44	4.4	6.8	8.1	18.9	20.0	21.3	22.7	23.9	34.8	36.2	38.5	17 21.42	0.06	22.60	5 17 43.96	17.40
	o Tauri	45	51.5	53.6	55.0	5.2	6.3	7.5	8.8	9.8	20.4	21.6	23.8	19 7.59	− 0.04	22.61	5 19 30.16	16.54
	O. Arg. S. 4060	46	51.6	53.9	55.0	5.8	6.9	8.2	9.4	10.6	21.2	22.5	25.0	27 8.19	+ 0.12	22.61	5 27 30.92	11.43
	O. Arg. S. 4163	47	16.3	18.5	19.8	30.6	31.7	33.2	34.5	35.6	46.5	47.8	50.2	31 33.15	0.13	22.61	5 31 55.89	11.14
	O. Arg. S. 4237	48	19.4	21.5	23.1	33.9	35.0	36.3	37.6	38.7	49.7	51.0	53.4	36 36.33	+ 0.13	22.61	5 36 59.07	11.19
	Moon I	†49	55.8	58.0	59.2	9.7	10.7	11.9	13.3	14.4	25.0	26.3	28.5	41 12.07	− 0.03	22.61	5 41 34.65	. .
	Lacaille 2033	50	6.0	8.4	9.7	20.7	21.9	23.3	24.5	25.8	36.7	38.1	40.5	46 23.24	+ 0.14	+22.61	5 46 45.99	− 11.02

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 13, 3.0	+ 20.86	+ 0.026	+ 0.020
14, 3.7	21.48	0.026	. .
16, 3.4	+ 22.57	+ 0.018	+ 0.030

2. Steady.
38. Very high wind.
39. Blurred; high wind blowing.
40. Blurred.
49. Unsteady.

			s.
February 12–13, 18h. to 4h.	n.	=	− 0.04.
14, . . .			0.04.
16, 21h. to 2h.			0.09.
4h. to 7h.			− 0.18.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 17	O. Arg. S. 4453	1	39.2	41.4	42.7	53.8	54.9	56.2	57.6	58.7	9.8	11.2	13.5	49 56.27	+ 0.13	22.61	5 50 19.01	− 11.11
Y.	χ^3 Orionis	2	48.2	50.3	51.5	.	2.6	3.8	5.0	. .	16.5	17.7	20.0	55 3.96	− 0.04	22.62	5 55 26.54	16.48
	ν Orionis	3	12.5	14.8	15.9	25.9	26.8	28.0	29.4	30.4	40.2	41.5	43.5	59 28.08	− 0.02	22.62	5 90 50.68	15.93
	δ Ursæ Minoris, S. P.	4	39.5	6.0	43.5	4.0	47.0	28.0	7.0	49.0	5.0	47.5	11.0	15 26.14	+ 2.52	22.62	. . . .	98.87
	O. Arg. S. 5704	5	52.1	54.4	55.6	6.3	7.4	8.6	10.0	11.2	22.0	23.3	25.5	42 8.76	0.12	22.63	6 42 31.51	11.77
	* — 30° 15′	6	17.7	19.9	21.3	32.5	33.6	34.9	36.3	37.5	48.6	50.0	52.3	46 34.96	0.14	22.63	6 46 57.73	11.35
	O. Arg. S. 5906	7	16.9	19.3	20.5	31.5	32.6	34.0	35.4	36.4	47.5	48.8	51.1	49 34.00	0.13	22.63	6 49 56.76	11.54
	ε Canis Majoris	8	39.4	41.5	42.9	53.9	55.0	56.3	57.6	58.9	10.0	11.3	13.6	52 56.40	0.13	22.63	6 53 19.16	− 11.58
17	δ Ursæ Minoris, S. P.	†9	. .	. .	. .	8.0	52.0	. .	. .	. .	. .	. .	. .	15 0.00	28.01	23.60	. . . .	+ 98.62
	γ Geminorum	†10	14.4	16.4	17.6	27.6	28.8	30.0	31.3	32.4	42.5	43.6	45.7	29 30.03	0.02	23.61	. . . .	− 16.24
	Moon I	†11	41.6	43.6	45.0	. .	. .	. .	. .	. .	. .	. .	. .	33 43.40	+ 14.32	23.61	6 34 21.33	.
18	δ Ursæ Minoris, S. P.	†12	40.0	8.0	46.0	. .	. .	. .	. .	. .	8.5	46.5	14.0	15 27.17	− 0.18	25.27	6 15 52.26	98.36
	γ Geminorum	†13	12.8	14.8	16.1	26.1	27.2	28.3	29.6	30.6	40.7	41.9	44.1	29 28.38	+ 0.04	25.29	6 29 53.71	16.23
	O. Arg. S. 5732	14	53.7	56.1	57.4	8.4	9.7	11.0	12.4	13.6	24.6	26.0	28.3	43 11.02	0.02	25.30	6 43 36.34	11.37
	O. Arg. S. 5863	15	29.0	31.1	32.5	43.3	44.6	45.9	47.1	48.4	59.4	0.7	3.0	47 45.91	0.02	25.31	6 48 11.24	11.56
	Lacaille 2544	16	16.1	18.2	19.6	30.0	31.1	32.3	33.7	34.8	45.4	46.6	48.8	52 32.42	+ 0.02	25.31	6 52 57.75	12.13
	Weisse (2) 1675	17	0.3	1.6	2.9	4.3	6.7	. .	11.0	13.6	14.9	16.2	17.8	55 38.93	− 0.21	25.32	6 56 4.04	16.77
	ζ Geminorum	18	23.6	25.7	27.0	37.2	38.3	39.6	40.8	41.8	52.2	53.7	55.6	55 39.59	+ 0.04	25.32	6 56 4.95	16.77
	λ Geminorum	19	38.0	40.1	41.4	51.3	52.4	53.6	54.8	56.0	6.0	7.1	9.3	9 53.64	+ 0.04	25.33	7 10 19.01	16.32
	Lalande 14620	20	. .	. .	. .	47.4	48.6	50.8	6.6	9.1	10.5	11.8	13.2	24 2.25	− 27.21	25.35	7 24 0.39	16.40
	Moon I	21	54.1	56.3	57.6	7.7	8.8	10.1	11.4	12.6	22.8	24.2	26.4	25 10.18	+ 0.04	25.35	7 25 35.57	. .
	α Canis Minoris	†22	32.9	34.9	36.2	45.7	46.8	48.0	49.2	50.2	59.8	0.9	3.1	31 47.97	0.03	25.36	7 32 13.36	15.01
	β Geminorum	23	19.6	22.2	23.5	34.3	35.4	36.7	38.0	39.3	50.3	51.4	53.9	36 36.78	+ 0.05	25.36	7 37 2.19	− 17.49
	λ Ursæ Minoris, S. P.	24	26.0	45.0	40.0	. .	. .	. .	. .	. .	11.5	8.0	23.5	58 25.67	− 0.64	25.39	7 58 50.42	+ 302.07
	ρ Argus	25	5.7	8.0	9.3	19.7	20.8	22.2	23.4	24.5	35.1	36.3	38.6	1 22.15	+ 0.02	25.39	8 1 47.56	− 12.67
	α Aquilæ	26	. .	. .	. .	54.7	56.0	58.0	13.3	15.8	12.1	18.5	19.8	44 9.15	− 26.28	. .	. . . .	11.92
19	Sun II	†27	. .	16.0	17.2	27.3	28.3	29.4	30.6	31.6	41.6	42.9	. .	10 29.43	+ 0.05	26.09	22 10 55.57	66.26
R.	α Andromedæ	†28	. .	. .	. .	53.3	54.4	55.9	57.2	58.4	9.2	10.6	13.0	1 1.50	− 5.60	26.16	0 1 22.06	12.65
	Polaris	29	18.0	15.0	0.0	49.0	26.0	. .	. .	. .	. .	. .	. .	46 9.60	+22 30.72	26.21	. . . .	64.20
	6 Canis Majoris	30	33.9	36.0	37.3	47.3	48.2	49.5	50.6	51.7	1.5	2.8	4.8	21 49.42	0.03	26.54	7 22 15.89	16.08
	68 Geminorum	31	11.0	13.0	14.6	24.4	25.5	26.7	28.0	29.0	38.8	40.0	42.3	25 26.66	+ 0.02	26.45	7 25 53.13	− 16.25
	λ Ursæ Minoris, S. P.	†32	24.0	43.0	38.0	. .	. .	. .	. .	. .	. .	. .	. .	9 55.00	−11 29.37	26.47	. . . .	+ 301.63
	Moon I	†33	30.5	32.6	33.8	43.9	44.8	45.9	47.4	48.8	58.9	0.1	2.1	14 46.25	+ 0.02	26.48	8 15 12.75	. .
	29 Cancri	34	20.5	24.6	25.9	35.6	. .	37.7	. .	40.2	50.1	51.3	53.6	20 37.72	0.00	26.48	8 21 4.20	− 16.06
	η Cancri	35	10.6	12.7	13.9	24.0	25.3	26.5	27.9	29.1	39.3	40.6	42.9	24 26.62	+ 0.02	26.48	8 24 53.12	16.63
	c^1 Cancri	36	4.0	6.1	7.3	. .	. .	. .	. .	. .	31.5	32.8	34.6	29 19.38	− 0.01	26.49	8 29 45.86	15.65
	ε Hydræ	37	55.4	57.5	58.7	8.1	9.1	10.3	11.6	12.8	22.3	23.4	25.7	39 10.45	+ 0.03	26.49	8 39 36.97	15.33
Y.	γ Aquilæ	38	5.4	7.5	8.8	18.5	19.4	20.7	21.9	23.0	33.7	34.0	35.9	39 20.81	+ 0.06	26.96	19 39 47.83	11.62
	Venus II	39	47.7	49.8	51.2	1.3	2.5	3.8	5.0	6.1	16.5	17.8	20.0	43 3.79	0.00	26.96	19 43 30.75	0.50
	α Aquilæ	40	. .	. .	. .	53.9	55.1	57.2	12.6	15.0	16.2	17.5	18.9	44 8.30	− 26.25	26.97	19 44 9.02	11.94
20	Sun I	41	51.0	53.0	54.1	3.8	5.0	6.1	7.3	8.4	18.3	19.6	21.6	12 6.20	+ 0.02	27.08	22 12 33.30	. .
	Sun II	42	3.2	5.2	6.6	16.3	17.3	18.4	19.6	20.8	30.6	31.7	33.8	14 18.50	0.02	27.08	22 14 45.60	. .
	α Andromedæ	43	37.8	40.2	41.4	52.3	53.3	54.7	56.0	57.3	8.3	9.6	11.8	0 54.79	0.11	27.17	0 1 22.07	12.64
	Polaris	†44	. .	. .	. .	59.0	40.0	31.0	20.0	3.0	. .	. .	. .	8 30.60	8.03	27.23	. . . .	63.48
	Moon	45	38.4	40.4	41.6	51.5	52.7	53.9	55.1	56.3	6.2	7.4	9.5	2 53.91	0.03	27.61	9 2 21.55	. .
	π^2 Cancri	46	2.6	4.7	6.0	15.8	16.9	18.1	19.2	20.4	30.5	31.7	33.7	7 18.15	0.03	27.62	9 7 45.80	15.98
	83 Cancri	47	42.4	44.5	45.8	55.9	56.9	58.1	59.3	0.5	10.7	11.9	14.1	10 58.19	0.03	27.63	9 11 25.85	16.14
	α Hydræ	48	14.0	16.1	17.3	27.0	28.0	29.2	30.3	31.3	41.0	42.2	44.4	20 29.16	0.05	27.63	9 20 56.84	14.41
	ξ Leonis	49	56.5	58.5	59.7	9.5	10.5	11.7	13.0	14.0	23.9	25.1	27.3	24 11.79	+ 0.03	+27.64	9 24 39.46	− 15.66

9. Too unsteady for observation.
10. Blurred and very unsteady.
11. Badly defined and vibrating.
12. Much blurred.
13. Excessively blurred.
22. Unsteady.
23. Unsteady.
27. Serrated and unsteady.
28. Unsteady.
32. Blurred and unsteady.
33. Badly defined and oscillating.
44. Unsteady.
45. Through clouds.

			s.
February	17,	n. =	− 0.03.
	18,		+ 0.02.
	19,	22h. to 2h.	− 0.02.
		7h. to 9h.	− 0.04.
	19–20,	19h. to 2h.	+ 0.11.
	20,	9h. to 10h.	− 0.04.

r.
February 18, 8h. 20m. Image east 0.04. Clamp east.
February 20. Stars observed through clouds.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 17, 6.5	+ 23.61	+ 0.054	+ 0.030
18, 7.4	25.35	0.070	. .
19, 5.7	26.38	0.038	0.035
20, 4.2	+ 27.38	+ 0.049	+ 0.040

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 20	10 Leonis	1	21.6	23.7	24.9	34.5	35.6	36.7	37.9	39.0	48.6	49.9	51.9	29 36.75	+ 0.03	+27.64	9 30 4.42	— 15.35
	ε Leonis	2	26.2	28.4	29.8	40.3	41.3	42.7	44.0	45.2	55.8	57.0	59.3	37 42.73	0.02	27.64	9 38 10.39	16.47
Y.	μ Leonis	3	19.7	22.0	23.4	34.0	35.1	36.5	37.8	39.0	49.8	51.1	53.4	44 36.53	0.02	27.65	9 45 4.20	16.49
22	π Leonis	4	19.7	21.8	23.0	32.6	33.6	34.8	36.0	37.1	46.8	48.0	50.0	52 34.87	+ 0.03	29.24	9 53 4.14	15.36
R.	14 Sextantis . . .	5	58.9	1.0	2.3	11.9	12.8	14.0	15.1	16.2	. .	. .	. .	59 9.02	+ 5.06	29.25	9 59 43.33	15.23
	α Leonis	6	. .	. .	. .	53.1	54.4	56.5	12.0	14.3	15.8	17.0	18.4	1 7.69	— 26.63	29.25	10 1 10.31	15.49
	Moon II . . .	7	58.5	0.6	1.8	11.4	12.6	13.7	14.9	16.0	25.9	27.1	29.1	38 13.78	+ 0.04	29.27	10 38 43.09	. .
	l Leonis	8	24.4	26.5	27.6	37.4	38.5	39.7	41.0	42.0	51.8	52.9	55.0	41 39.71	0.03	29.27	10 42 9.01	15.26
	χ Leonis	9	18.2	20.1	21.4	31.0	32.0	33.2	34.5	35.6	45.4	46.5	48.6	57 33.32	0.03	29.28	10 58 12.63	15.00
	p^5 Leonis	10	6.1	8.0	9.5	18.9	19.9	21.0	22.2	23.3	32.9	34.0	36.2	6 21.09	0.04	29.28	11 6 50.41	14.90
Y.	α Aquilæ	11	24.3	26.3	27.6	37.1	38.1	39.4	40.6	41.6	51.5	52.7	54.8	43 39.45	0.04	29.59	. . . .	12.00
	Venus II . . .	†12	6.9	8.9	10.3	20.4	21.5	22.7	24.0	25.1	35.3	36.6	38.9	58 22.78	0.06	29.59	19 58 52.43	0.49
	Mercury II . . .	†13	35.0	37.0	38.3	. .	. .	. .	. .	. .	3.5	4.6	6.7	42 50.85	0.02	29.61	20 43 20.48	0.23
23	Sun I	†14	15.6	17.7	18.8	. .	. .	. .	. .	. .	42.8	43.8	46.1	23 30.80	0.01	29.66	22 24 0.47	. .
	Sun II	†15	27.4	29.4	30.6	40.4	41.4	42.5	43.7	44.9	54.8	56.0	58.0	25 42.65	0.05	29.66	22 26 12.36	. .
	Polaris	†16	28.0	45.0	36.0	. .	42.0	32.0	20.0	2.0	. .	. .	. .	4 55.00	3 38.89	29.73	. . . .	61.34
	α Arietis	17	45.6	47.8	49.1	59.4	0.5	1.7	3.0	4.2	14.7	16.0	18.2	59 1.84	0.03	29.76	. . . .	14.33
R.	α Aquilæ	18	23.8	25.9	27.1	36.6	37.7	38.8	40.1	41.2	50.9	52.1	54.1	43 38.94	+ 0.03	30.16	. . . .	12.02
	Venus II . . .	†19	. .	. .	. .	. .	. .	. .	0.6	3.3	4.5	5.9	7.3	4 4.32	— 35.86	30.17	20 3 58.63	0.49
24	Sun I	†20	41.8	43.1	44.5	45.6	48.0	3.1	5.0	6.4	. .	. .	. .	26 52.19	+ 26.18	30.23	22 27 48.60	. .
	Sun II	†21	53.4	54.7	56.0	57.1	59.5	14.7	16.6	18.0	41.9	43.1	45.3	29 14.57	15.37	30.23	22 30 0.17	. .
	α Andromedæ . .	22	11.0	12.5	13.8	15.2	17.8	. .	. .	. .	. .	. .	. .	0 14.06	37.70	30.27	0 1 22.03	12.62
	B. A. C. 3096 . .	23	26.8	29.0	30.5	41.2	42.0	43.3	44.8	46.0	56.6	58.0	0.0	56 43.47	0.12	30.50	8 57 14.09	13.11
	κ Cancri	24	39.6	41.5	42.9	52.6	53.5	54.7	55.9	57.0	6.8	8.0	10.2	59 54.79	0.02	30.51	9 0 25.32	15.66
	* — 27° 46′ . .	25	14.5	16.6	18.1	28.7	29.8	31.4	32.7	34.1	44.8	46.2	48.6	5 31.41	+ 0.13	30.51	9 6 2.05	13.08
	O. Arg. S. 9522 .	26	17.1	19.6	20.7	. .	. .	. .	8.0	10.7	11.9	13.3	14.9	9 52.02	— 17.85	30.51	9 10 4.68	13.14
	O. Arg. S. 9600 .	†27	19.3	21.4	22.7	33.6	34.8	36.0	37.4	38.5	49.4	50.7	52.8	13 36.05	+ 0.13	30.51	9 14 6.69	13.16
	υ Leonis	28	15.9	18.0	19.3	28.7	29.9	31.0	32.2	33.2	42.8	44.0	45.8	29 30.99	0.05	30.57	11.30 1.61	14.87
	ν Virginis	29	8.9	10.8	12.3	21.8	22.8	24.0	25.3	26.4	35.9	37.2	39.1	38 24.05	0.02	30.57	11 38 54.64	14.89
	β Virginis	30	53.6	55.6	56.7	6.3	7.4	8.6	9.8	10.8	20.3	21.5	23.7	43 8.57	0.04	30.58	11 43 39.19	14.85
	Moon II . . .	31	0.1	2.0	3.2	13.3	14.3	15.5	16.7	17.6	27.2	28.6	30.7	11 15.38	0.06	30.59	12 11 46.03	. .
	q Virginis	32	41.2	42.8	43.9	45.0	47.6	2.5	4.5	5.8	. .	. .	. .	25 51.66	+ 26.06	30.59	12 26 48.31	14.91
	β Corvi	33	. .	. .	. .	59.7	1.0	3.2	19.7	22.4	23.6	24.9	26.5	27 15.12	— 28.07	30.60	12 27 17.65	15.25
	χ Virginis	34	30.4	32.4	33.8	43.2	44.4	45.4	46.8	48.0	57.3	58.6	0.6	31 45.54	+ 0.07	30.60	12 32 16.21	14.88
	Polaris, S. P. . .	†35	56.0	15.0	30.0	41.0	42.0	. .	. .	. .	. .	. .	. .	45 36.80	22 55.16	30.60	. . . .	. .
25	Lacaille 5013 . .	36	10.8	13.2	14.5	26.3	27.4	28.8	30.3	31.5	43.2	44.9	47.6	58 28.95	0.15	31.58	11 59 0.68	15.30
Y.	ε Corvi	37	23.0	25.2	26.5	36.7	37.8	39.1	40.3	41.4	51.9	53.2	55.3	2 39.13	0.11	31.59	12 3 10.83	15.08
	* — 25° 48′ . .	38	11.7	14.2	15.4	25.9	27.2	28.4	29.6	30.8	41.5	43.0	45.1	8 28.44	0.12	31.59	12 9 0.15	15.20
	* — 25° 50′ . .	39	3.0	5.2	6.6	17.0	18.1	19.5	20.7	22.0	32.8	34.0	36.3	9 19.56	0.12	31.59	12 9 51.27	15.21
	O. Arg. S. 12082 .	40	5.7	8.1	9.4	20.0	21.1	22.4	23.7	25.0	35.7	37.0	39.2	12 22.48	0.12	31.59	12 12 54.19	15.25
	O. Arg. S. 12116 .	41	37.0	39.1	40.6	51.0	52.0	53.4	54.6	55.7	6.4	7.6	9.8	14 53.38	0.11	31.59	12 15 25.08	15.11
	Lalande 23198 . .	42	12.9	15.0	16.4	27.1	28.2	29.5	30.7	31.9	42.5	43.8	46.2	16 29.47	0.12	31.59	12 17 1.18	15.27
	Lacaille 5143 . .	43	24.3	26.7	27.9	38.4	39.6	40.9	42.2	43.3	54.0	55.2	57.4	17 40.90	0.12	31.59	12 18 12.61	15.28
	q Virginis	44	1.4	3.4	4.6	14.3	15.3	16.6	17.8	18.7	28.6	29.8	31.7	26 16.56	+ 0.07	31.60	12 26 48.23	14.92
	β Corvi	45	. .	. .	. .	58.7	59.9	2.2	18.6	21.1	22.5	23.9	25.3	27 14.02	— 28.08	31.60	12 27 17.54	15.26
	χ Virginis	46	29.5	31.5	32.7	42.2	43.2	44.4	45.6	46.6	56.5	57.7	59.7	31 44.51	+ 0.07	31.60	12 32 16.18	14.89
	* — 40° 35′ . .	47	17.7	20.3	22.0	34.3	35.7	37.4	38.9	40.3	53.0	54.7	57.2	35 37.41	0.18	31.60	12 36 9.19	16.15
	Lacaille 5278 . .	48	39.4	41.9	43.4	54.6	55.8	57.3	58.6	59.8	11.3	12.7	15.1	38 57.26	0.14	31.60	12 39 29.00	15.78
	O. Arg. S. 12460 .	49	8.6	11.0	12.1	22.4	23.6	24.9	26.4	27.5	38.3	39.4	41.6	42 25.07	0.12	31.60	12 42 56.79	15.49
	ψ Virginis	50	32.7	34.6	35.9	45.6	46.6	47.8	49.0	50.0	59.8	0.9	3.0	46 47.81	+ 0.07	+31.61	12 47 19.49	— 14.94

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 22, 10.4	+ 29.26	+ 0.033	+ 0.040
22.8	29.67	0.027	0.045
24, 5.7	30.42	0.026	0.045
25, 12.9	+ 31.61	+ 0.030	+ 0.050

12. Very unsteady.
13. Very faint.
14. Very unsteady.
15. More steady.
16. Under clouds.
19. Through clouds and very unsteady.
20–21. Through clouds.
27. Stars faint and blurred.
35. Very unsteady.

s.
February 22–23, n. = — 0.04.
23–24, 19h. to 1h. 0.08.
24, 8h. to 11h. 0.15.
11h. to 13h. 0.18.
25–26, — 0.13.
February 23. Observations made through clouds.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	h. m.	m. s.	s.	h. m. s.	s.
Feb. 25	O. Arg. S. 12573 .	1	10.6	12.8	14.1	24.6	25.6	27.0	28.1	29.2	39.8	41.1	43.3	52 26.93	+ 0.11	—31.61	12 52 58.65	— 15.48
Y.	O. Arg. S. 12615 .	2	46.4	48.6	50.0	0.5	1.7	3.0	4.1	5.2	16.0	17.2	19.6	56 2.94	0.12	31.61	12 56 34.67	15.60
	Moon II . . .	3	3.1	5.1	6.3	16.2	17.3	18.4	19.7	20.8	30.8	32.1	34.1	59 18.54	0.07	31.61	12 59 50.22	. .
	ϑ Virginis	4	10.3	12.5	13.6	23.2	24.1	25.4	26.5	27.5	37.2	38.4	40.4	2 25.37	0.06	31.61	13 2 57.04	14.79
	Polaris, S. P. . .	†5	. .	. .	. .	55.0	15.5	24.5	36.0	56.5	. .	. .	.	8 25.50	5.19	31.62	. . . .	59.80
	α Virginis	6	17.4	19.4	20.7	30.4	31.5	32.6	33.8	34.9	44.6	45.9	48.0	17 32.65	0.08	31.62	13 18 4.35	15.01
	* — 34° 51′ . .	7	51.5	53.8	55.3	7.0	8.2	9.5	11.0	12.4	24.2	25.5	28.0	21 9.67	0.15	31.62	13 21 41.44	16.43
	O. Arg. S. 12920 .	8	23.0	25.2	26.6	37.7	39.8	40.3	41.5	42.8	54.0	55.3	57.7	23 40.35	0.13	31.62	13 24 12.10	16.14
	ζ Virginis	9	1.6	3.7	4.7	14.3	15.3	16.4	17.6	18.7	28.4	29.5	31.6	27 16.53	+ 0.05	31.63	13 27 48.21	— 14.46
	δ Ursæ Minoris . .	10	. .	. .	. .	42.5	3.0	37.0	53.0	34.0	54.0	16.0	38.5	22 42.25	— 7 20.17	31.66	18 15 53.74	+ 95.98
	α Lyræ	11	. .	. .	. .	45.6	46.9	48.5	49.9	51.3	3.5	5.1	7.7	31 54.81	— 6.39	31.67	18 32 20.09	— 8.20
R.	Venus II . . .	12	21.2	23.3	24.6	34.7	35.6	36.9	38.3	39.4	49.6	51.0	53.1	13 37.06	+ 0.10	31.73	20 14 8.89	0.49
	Sun I	13	35.5	37.5	38.6	48.5	49.5	50.6	52.0	52.9	2.8	3.8	6.0	34 50.70	0.07	31.80	22 35 22.57	. .
	Sun II	14	47.0	48.8	50.2	59.7	0.7	1.9	3.2	4.2	. .	. .	. .	36 56.96	+ 5.13	31.80	22 37 33.89	. .
	α Andromedæ . .	15	33.4	35.6	36.9	47.7	48.8	50.1	51.5	52.7	3.7	4.9	7.2	0 50.23	— 0.01	31.85	0 1 22.07	— 12.61
	Polaris	†16	. .	. .	. .	2.0	42.0	30.0	21.0	2.0	. .	. .	. .	8 31.40	— 1.33	31.88	1 9 1.95	. .
N.	Uranus I . . .	17	38.5	39.8	41.2	42.4	45.1	. .	. .	. .	. .	. .	. .	19 41.40	+ 36.12	31.88	5 20 49.40	+ 0.12
	Uranus	18	1.3	3.5	4.8	15.3	16.3	17.7	19.0	20.0	30.7	32.0	34.1	20 17.70	0.00	31.88	5 20 49.58	. .
	Uranus II . . .	19	. .	. .	. .	. .	. .	. .	50.7	53.4	54.7	56.0	57.6	20 54.48	— 36.63	31.88	5 20 49.73	— 0.12
	δ Orionis	20	18.4	20.3	21.6	31.0	32.1	33.3	34.5	35.7	45.1	46.4	48.4	24 33.35	+ 0.05	31.88	. . . .	13.96
26	ε Orionis	21	33.6	35.6	36.9	46.4	47.5	48.6	49.7	50.8	0.5	1.6	3.6	28 48.62	+ 0.05	31.88	. . . .	. .
R.	Polaris, S. P. . .	†22	51.0	52.0	1.0	13.0	. .	. .	. .	. .	. .	. .	. .	31 29.25	—23 0.73	32.28	13 9 0.80	59.27
	η Bootis	23	26.4	28.5	29.8	39.8	41.0	42.2	43.5	44.6	54.8	56.0	58.2	47 42.25	+ 0.01	32.29	13 48 14.55	13.17
	Moon II . . .	24	2.0	4.1	5.5	15.4	16.5	17.8	19.2	20.2	30.1	31.3	33.5	49 17.78	0.08	32.29	13 49 50.15	. .
	τ Virginis	25	58.4	0.4	1.8	11.2	12.2	13.2	14.5	15.6	25.3	26.4	28.4	54 13.40	0.05	32.29	13 54 45.74	14.35
	94 Virginis	26	20.7	22.7	23.8	34.4	34.4	35.7	36.9	38.0	47.8	48.9	51.0	58 35.75	0.07	32.30	13 59 8.12	14.91
	κ Virginis	27	53.4	55.4	56.7	6.3	7.4	8.7	9.8	10.8	20.6	21.8	23.7	5 8.60	0.07	32.30	14 5 40.97	14.99
	α Bootis	28	41.3	43.3	44.7	54.8	55.8	57.2	58.4	59.6	9.7	10.9	13.4	8 57.19	0.01	32.30	14 9 29.50	12.84
	λ Virginis	29	59.9	1.9	3.1	12.8	14.0	15.2	16.4	17.5	27.5	28.5	30.6	11 15.22	+ 0.08	32.30	14 11 47.60	15.19
	* — 27° 29′ . .	30	. .	. .	. .	47.6	48.6	49.8	50.2	52.4	3.0	4.5	6.8	16 55.36	— 5.47	32.31	14 17 22.20	16.33
	O. Arg. S. 13629 .	31	. .	. .	. .	2.9	4.0	5.3	6.6	7.8	18.7	20.2	22.2	19 10.96	— 5.47	32.31	14 19 37.82	16.32
	O. Arg. S. 13647 .	32	54.0	56.2	57.5	8.0	9.2	10.6	11.8	13.0	24.1	25.3	27.6	20 10.66	+ 0.12	32.31	14 20 43.09	16.33
	ρ Bootis	33	10.1	12.0	13.9	24.9	26.0	27.5	28.8	30.1	41.4	42.8	45.3	25 27.53	— 0.02	32.31	14 25 59.82	12.09
Y.	γ Aquilæ	34	0.1	2.1	3.4	13.0	14.1	15.3	16.4	17.5	27.4	28.5	30.6	39 15.31	+ 0.06	32.62	19 39 47.99	11.77
	α Aquilæ	35	21.3	. .	24.7	34.3	35.3	36.5	37.7	38.8	48.5	. .	51.7	43 36.53	0.05	32.62	19 44 9.20	12.09
	Venus II . . .	†36	24.4	26.3	27.6	37.7	38.8	40.0	41.4	42.4	52.8	54.0	56.3	18 40.15	0.06	32.65	20 19 12.86	0.49
	Mercury II . . .	†37	. .	21.9	23.0	33.1	34.2	35.5	36.7	37.8	48.0	49.3	. .	3 35.50	0.07	32.68	21 4 8.25	0.22
27	Sun I	†38	20.6	22.6	23.8	33.4	34.5	35.8	37.0	37.9	47.7	49.0	50.9	38 35.75	0.06	32.76	22 39 8.57	. .
	Sun II	†39	31.5	33.4	34.8	44.5	45.6	46.8	47.8	48.9	58.8	0.0	2.0	40 46.74	0.06	32.76	22 41 19.56	. .
	Polaris	40	. .	40.0	30.0	. .	34.5	24.0	12.5	55.5	. .	. .	. .	5 52.75	2 35.75	32.87	. . . .	59.02
	α Orionis	†41	2.3	4.2	5.5	15.0	16.0	17.3	18.5	19.4	29.2	30.4	32.4	47 17.29	0.05	33.09	5 47 50.43	14.89
	δ Ursæ Minoris, S. P.	†42	45.0	. .	. .	. .	42.0	. .	. .	. .	52.0	. .	.	14 6.33	1 15.20	33.11	. . . .	. .
	ρ Bootis	43	8.8	11.2	12.7	23.7	24.8	26.4	27.7	28.9	40.1	41.5	43.9	25 26.34	0.00	33.50	14 25 59.84	12.11
	μ Virginis	44	7.2	9.2	10.5	20.1	21.0	22.2	23.4	24.4	34.1	35.3	37.4	35 22.25	0.06	33.51	14 35 55.82	14.64
	5 Libræ	45	41.1	43.2	44.5	54.2	55.4	56.6	57.8	58.9	8.9	10.1	12.2	37 56.63	0.09	33.51	14 38 30.23	15.37
	Moon II . . .	46	30.7	32.6	34.1	44.2	45.3	46.6	47.9	48.9	59.4	0.6	2.8	41 46.65	+ 0.09	33.51	14 42 20.25	. .
	α Libræ	47	. .	. .	. .	47.8	48.8	50.0	51.3	52.4	2.4	3.7	5.7	42 55.26	— 5.05	33.51	14 43 23.72	15.37
	ξ² Libræ	48	36.8	38.8	40.0	49.8	50.8	51.9	53.2	54.2	4.0	5.1	7.3	48 51.99	+ 0.08	33.52	14 49 25.59	15.04
	20 Libræ	49	19.1	21.4	22.7	33.2	34.3	35.6	36.8	37.9	48.7	49.9	52.1	55 35.61	+ 0.11	33.52	14 56 9.24	16.20
	ψ Bootis	50	48.3	50.5	51.9	2.6	3.8	5.1	6.5	7.6	18.6	19.8	22.2	58 5.17	0.00	+33.52	14 58 38.69	— 11.89

5. Unsteady.
16. Very unsteady; wind violent.
22. Blurred.
36. Unsteady.
37. Faint.
38-39. Through clouds.
41-42. Through clouds.

February 26-27, 19h. to 2h. n. = — 0.01 s.
27, 5h. to 7h. 0.06.
14h. to 16h. — 0.11.

February 25, 1h. 40m. Image east 0.05 r. Clamp east.
Image west 0.19. Clamp west.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Feb. 26, 8.5	+ 32.12	+ 0.032	+ 0.050
27, 8.1	+ 33.20	+ 0.047	+ 0.055

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	IX.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Feb. 27	i Libræ	1	41.1	43.2	44.6	54.6	55.7	56.9	58.1	59.2	9.5	10.7	12.9	3 56.95	+ 0.10	+33.53	15 4 30.58	— 15.75
Y.	β Libræ	2	54.6	56.9	58.0	7.7	8.6	9.8	11.0	12.1	21.9	23.0	24.9	9 9.86	0.07	33.53	15 9 43.46	14.79
Mar. 1	η Ophiuchi . . .	3	11.6	13.6	14.9	24.8	25.8	27.1	28.2	29.4	39.5	40.5	42.7	2 27.10	0.09	9.05	17 2 36.24	15.22
	A Ophiuchi, (1st *) .	4	. .	. .	. .	49.0	50.2	51.3	52.6	53.9	. .	. .	. .	6 51.40	0.17	9.05	17 7 0.62	16.47
	A Ophiuchi, (2d *) .	5	35.0	37.2	38.5	. .	. .	. .	. .	. .	4.9	6.0	8.4	6 51.67	0.08	9.05	17 7 0.80	16.47
	θ Ophiuchi . . .	†6	15.6	17.7	19.0	29.6	. .	31.7	. .	34.4	45.0	46.4	48.6	13 32.00	0.09	9.04	17 13 41.13	16.24
	α Ophiuchi . . .	†7	13.9	16.0	17.2	26.9	27.8	28.9	30.2	31.3	41.2	42.5	44.6	28 29.14	0.04	9.03	17 28 38.21	12.14
	Moon II . . .	8	9.9	12.1	13.3	24.2	25.3	26.6	27.8	29.0	39.5	40.8	43.0	36 26.50	0.19	9.03	17 36 35.63	. .
	μ Herculis . . .	9	43.0	45.2	46.5	57.4	58.5	59.9	1.4	2.7	13.3	14.9	17.0	40 59.98	0.01	9.02	17 41 9.01	10.09
R.	α Cygni	10	17.4	21.1	22.0	35.4	36.8	38.5	40.1	41.7	55.3	57.0	59.8	36 38.65	0.07	8.66	20 36 47.38	7.81
	Venus II . . .	11	57.1	59.3	0.6	10.5	11.6	13.0	14.2	15.4	25.4	26.7	28.9	39 12.97	0.07	8.66	20 39 21.70	0.47
	Mercury II . . .	12	52.8	54.9	56.3	6.1	7.3	8.5	9.7	10.9	21.0	22.2	24.3	27 8.55	0.07	8.65	21 27 17.27	0.21
2	Sun I	13	44.0	46.0	47.4	56.9	57.9	59.1	0.3	1.4	11.0	12.2	14.3	53 59.14	0.06	8.62	22 54 7.82	. .
	Sun II	14	54.4	56.3	57.7	7.4	8.4	9.5	10.9	11.9	21.5	22.8	24.8	56 9.60	0.06	8.62	22 56 18.28	. .
	α Andromedæ . .	15	56.4	58.6	0.0	10.7	12.0	13.3	14.7	15.9	26.9	28.1	30.5	1 13.37	0.06	8.61	0 1 22.04	12.60
	Polaris	16	43.0	1.0	52.0	18.0	58.5	46.0	36.0	18.0	49.5	37.5	0.0	8 49.05	2.03	8.59	. . . .	57.25
	Lacaille 2741 . .	17	37.5	39.6	40.9	51.5	52.7	54.0	55.4	56.5	7.4	8.7	11.0	14 54.11	+ 0.14	8.50	7 15 2.75	11.81
	O. Arg. S. 6748 .	18	42.2	43.7	45.1	46.5	49.2	. .	57.7	0.4	1.8	3.4	4.8	18 23.48	— 0.12	8.50	7 18 31.86	11.54
	η Canis Majoris . .	19	19.3	21.6	22.9	33.9	35.0	36.4	37.8	39.0	49.9	51.2	53.6	18 36.42	+ 0.15	8.50	7 18 45.07	11.55
	α^1 Geminorum . .	20	6.2	8.0	9.3	10.7	13.4	. .	24.7	27.5	28.7	30.4	32.0	25 49.09	— 0.30	8.50	7 25 57.29	18.02
	α^2 Geminorum . .	21	31.7	34.0	35.5	46.7	47.8	49.1	0.5	1.9	3.4	4.7	7.2	25 49.32	— 0.02	8.50	7 25 57.80	18.03
	O. Arg. S. 7131 .	22	9.6	11.8	13.2	23.8	24.9	26.4	27.6	28.8	39.7	41.0	43.2	31 26.36	+ 0.14	8.50	7 31 35.00	11.90
	* — 29° 52′ . .	23	. .	. .	. .	44.7	45.9	48.1	5.7	8.5	9.8	11.4	12.7	34 0.85	— 38.65	8.50	7 33 30.70	11.61
	O. Arg. S. 7224 .	24	18.6	20.7	22.3	33.1	34.4	35.8	37.2	38.4	49.6	50.8	53.1	34 35.82	+ 0.15	8.50	7 34 44.47	11.62
	* — 23° 54′ . .	25	27.9	29.3	30.6	31.9	34.5	. .	39.7	42.4	43.7	45.0	46.4	40 7.14	— 0.13	8.49	7 40 15.50	12.33
	* — 23° 46′ . .	26	53.5	55.6	56.8	7.4	8.3	9.7	10.9	12.0	22.6	23.9	26.0	40 9.70	+ 0.13	8.49	7 40 18.32	12.34
	φ Geminorum . . .	27	47.4	49.8	51.2	1.8	2.9	4.3	5.7	6.8	17.7	18.8	21.3	45 4.34	0.00	8.49	7 45 12.83	17.37
	6 Cancri	28	46.8	49.1	50.5	1.4	2.5	3.8	5.0	6.3	17.3	18.6	21.0	55 3.85	— 0.01	8.49	7 55 12.33	— 17.45
	λ Ursæ Minoris, S. P.	29	. .	. .	. .	42.0	56.0	50.0	48.0	51.0	. .	. .	. .	58 49.40	+ 1.69	8.49	. . . .	+ 293.72
	δ Ursæ Minoris . .	30	34.5	7.5	29.0	7.5	25.0	45.0	6.0	23.5	5.5	26.0	0.5	15 46.36	1.18	8.30	18 15 55.84	+ 94.02
	α Lyræ	31	52.7	54.2	56.8	9.0	10.3	11.8	13.3	14.6	27.0	28.5	31.2	32 11.86	0.08	8.30	18 32 20.24	— 8.35
	Moon II . . .	32	18.3	20.4	21.9	32.2	33.4	34.6	36.0	37.1	47.9	49.0	51.2	38 34.73	0.06	8.30	18 38 43.09	. .
	β Lyræ	33	37.8	40.0	41.5	52.8	54.0	55.4	56.9	58.1	9.7	11.0	13.5	44 55.52	0.08	8.30	18 45 3.90	9.18
Y.	α Aquilæ	34	45.8	47.8	49.1	58.6	59.7	0.9	2.0	3.1	12.9	14.2	16.2	44 0.94	0.06	8.33	19 44 9.33	12.20
	Venus II . . .	35	57.8	59.9	1.3	11.2	12.3	13.7	14.9	15.9	25.9	27.3	29.5	44 13.61	0.06	8.34	20 44 22.01	0.47
	β Cephei	36	59.2	4.8	8.8	36.2	39.2	42.6	46.0	49.0	17.4	20.7	26.6	26 42.77	0.21	8.34	21 26 51.32	0.89
	Mercury II . . .	37	35.5	37.6	38.9	48.9	50.0	51.2	52.5	53.5	3.5	4.9	7.0	31 51.23	0.06	8.34	21 31 59.63	0.21
	ε Pegasi	38	7.0	8.9	10.2	19.9	20.9	22.1	23.3	24.4	34.2	35.4	37.5	37 22.16	0.06	8.34	21 37 30.56	11.99
3	Sun I	39	28.0	30.0	31.2	. .	. .	. .	. .	. .	55.0	56.1	58.1	57 43.07	0.02	8.36	22 57 51.45	. .
	Sun II	40	38.2	40.3	41.5	51.2	52.2	53.3	54.5	55.5	5.3	6.5	8.5	59 53.36	0.06	8.36	23 0 1.78	. .
	α Andromedæ . .	†41	. .	58.7	0.2	11.2	12.2	13.5	14.8	16.0	27.2	28.5	. .	1 13.59	0.08	8.37	0 1 22.04	12.60
	Polaris	†42	39.5	2.0	50.0	14.0	54.0	45.0	33.0	15.0	48.0	37.0	59.0	8 46.95	2.85	8.38	1 8 58.18	56.76
	α Orionis	43	26.8	29.0	30.2	39.7	40.7	41.9	43.2	44.2	53.9	55.1	57.0	47 41.97	+ 0.05	8.43	5 47 50.45	14.81
	O. Arg. S. 4474 .	44	. .	. .	. .	47.4	48.6	50.9	8.3	11.0	12.4	13.9	15.4	52 3.49	— 29.56	8.43	5 51 42.36	10.22
	O. Arg. S. 4527 .	45	22.3	24.6	26.0	37.0	38.0	39.4	40.7	41.9	53.1	54.4	56.6	54 39.45	+ 0.12	8.43	5 54 48.00	10.78
	* — 28° 36′ . .	46	30.0	31.5	32.8	34.2	36.9	. .	45.4	48.1	49.4	50.8	52.4	59 11.15	— 0.15	8.43	5 59 19.43	10.90
	* — 28° 37′ . .	47	56.3	58.6	0.1	10.7	11.9	13.2	14.6	15.8	26.9	28.3	30.5	59 13.35	+ 0.12	8.43	5 59 21.90	10.90
	δ Ursæ Min., S. P.	48	53.5 59.5	31.0 26.7	9.5 4.5	51.0 24.5	10.5 8.5	. . 47.7	18.5 28.0	38.0 10.5	16.0 27.7	54.5 7.5	32.5 33.5	15 45.41	2.58	8.43	. . . .	93.87
	51 Cephei	49	45.5	28.5	54.0	11.0	31.0	56.5	23.5	44.5	4.0	28.3	11.0	35 57.98	+ 0.83	+ 8.43	6 36 5.58	— 146.60

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 1, 17.5	+ 9.03	— 0.050	+ 0.060
2, 3.9	8.55	— 0.015	. .
18.6	8.30	+ 0.012	. .
3, 1.2	8.38	+ 0.010	. .
11.5	+ 8.30	— 0.028	. .

6–7. Unsteady.
41. Faint and unsteady.
42. Very unsteady.

	s.
March 1, . . . n. =	— 0.10.
2, 22h. to 2h.	0.01.
7h. to 8h.	— 0.14.
2–3, 18h. to 2h.	+ 0.01.
3, 5h. to 23h.	— 0.10.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 3	O. Arg. S. 5863	1	45. 5	47. 7	49. 1	0. 0	1. 0	2. 5	3. 7	4. 9	15. 9	17. 3	19. 6	48 2. 47	+ 0. 12	+ 8. 44	6 48 11. 03	— 11. 31
Y.	Lacaille 2549	2	31. 1	33. 4	34. 8	45. 8	46. 9	48. 4	49. 7	50. 9	2. 2	3. 6	5. 8	52 48. 42	+ 0. 13	8. 44	6 52 56. 99	11. 08
	Lacaille 2566	3	8. 9	10. 6	12. 1	13. 4	16. 1	. .	26. 2	29. 1	30. 4	32. 0	33. 4	54 51. 22	— 0. 15	8. 44	6 54 59. 51	11. 06
	* — 30° 53′	4	37. 9	40. 0	41. 5	52. 6	53. 8	55. 2	56. 6	57. 9	9. 1	10. 5	12. 8	54 55. 26	+ 0. 13	8. 44	6 55 3. 83	11. 06
	γ Canis Majoris	5	14. 3	16. 3	17. 6	27. 5	28. 5	29. 7	31. 0	32. 0	42. 0	43. 3	45. 4	57 29. 78	0. 09	8. 44	6 57 38. 31	12. 85
	* — 29° 37′	6	33. 5	36. 0	37. 4	48. 3	49. 4	50. 8	52. 2	53. 4	4. 4	5. 8	8. 1	12 50. 85	0. 13	8. 43	7 12 59. 41	11. 40
	Lacaille 2753	7	16. 7	19. 0	20. 5	31. 7	32. 9	34. 3	35. 7	36. 9	48. 4	49. 7	52. 2	15 34. 36	0. 13	8. 43	7 15 42. 92	11. 11
	Lacaille 2763	8	35. 0	37. 2	38. 7	50. 0	51. 1	52. 6	54. 0	55. 3	6. 6	8. 0	10. 3	16 52. 62	+ 0. 13	8. 43	7 17 1. 18	11. 12
	* — 32° 18′	9	18. 4	20. 0	21. 4	22. 8	25. 6	. .	36. 7	39. 5	41. 0	42. 5	44. 0	17 1. 19	— 0. 15	8. 43	7 17 9. 47	11. 12
	O. Arg. S. 6810	10	. .	. .	. .	. .	. .	. .	59. 9	2. 7	4. 0	5. 5	6. 9	21 3. 80	— 37. 48	8. 43	7 20 34. 75	11. 84
	Lacaille 2813	11	5. 9	8. 1	9. 5	20. 2	21. 3	22. 6	23. 8	25. 0	35. 9	37. 2	39. 4	22 22. 63	+ 0. 12	8. 43	7 22 31. 18	11. 85
	O. Arg. S. 6948	12	30. 6	32. 2	33. 6	34. 8	37. 6	. .	45. 5	48. 2	49. 6	51. 0	52. 5	25 11. 56	— 0. 15	8. 43	7 25 19. 84	11. 74
	O. Arg. S. 6949	13	54. 5	56. 8	58. 2	9. 0	10. 2	11. 5	12. 8	14. 0	24. 9	26. 2	28. 5	25 11. 51	+ 0. 12	8. 43	7 25 20. 06	11. 74
	* — 29° 40′	14	24. 5	26. 0	27. 5	28. 8	31. 5	. .	40. 5	43. 4	44. 8	46. 3	47. 7	30 6. 10	— 0. 14	8. 42	7 30 14. 38	11. 58
	* — 29° 44′	15	59. 2	1. 5	3. 0	14. 0	15. 2	16. 3	17. 7	19. 1	30. 1	31. 5	34. 0	30 16. 51	+ 0. 13	8. 42	7 30 25. 06	11. 58
	O. Arg. S. 7239	16	49. 5	51. 8	53. 0	3. 8	5. 0	6. 3	7. 6	8. 8	19. 8	21. 1	23. 4	35 6. 37	0. 12	8. 42	7 35 14. 91	11. 87
	Lacaille 2941	17	28. 6	30. 9	32. 3	43. 6	44. 7	46. 1	47. 5	48. 7	0. 1	1. 3	3. 8	38 46. 15	0. 13	8. 42	7 38 54. 70	11. 49
	O. Arg. S. 7464	18	. .	. .	. .	49. 3	50. 5	51. 8	53. 2	54. 4	. .	. .	. .	42 51. 84	0. 17	8. 41	7 43 0. 42	12. 05
	O. Arg. S. 7465	19	36. 9	39. 1	40. 6	. .	. .	. .	. .	. .	6. 9	8. 2	10. 4	42 53. 68	0. 08	8. 41	7 43 2. 17	12. 06
	* — 26° 2′	20	3. 4	5. 5	6. 8	17. 4	18. 5	19. 9	21. 2	22. 5	33. 1	34. 5	36. 7	47 19. 95	0. 12	8. 41	7 47 28. 48	12. 17
	* — 25° 58′	†21	56. 8	59. 1	0. 4	11. 2	12. 2	13. 6	14. 9	16. 1	26. 6	28. 0	30. 4	48 13. 57	0. 12	8. 41	7 48 22. 10	12. 18
	O. Arg. S. 7758	22	39. 8	42. 1	43. 4	54. 2	55. 3	56. 5	57. 9	59. 1	9. 8	11. 2	13. 5	52 56. 62	+ 0. 12	8. 40	7 53 5. 14	12. 11
	6 Cancri	23	46. 8	49. 2	50. 6	1. 3	2. 4	. .	5. 2	6. 4	17. 3	18. 8	21. 0	55 3. 90	0. 00	8. 40	7 55 12. 30	— 17. 44
	λ Ursæ Minoris, S. P.	24	. .	. .	. .	46. 0	56. 0	53. 0	51. 0	. .	. .	. .	. .	59 21. 50	— 29. 42	8. 40	. . . . .	+ 292. 96
	* — 26° 59′	25	29. 0	31. 3	32. 6	43. 3	44. 4	45. 6	47. 0	48. 3	59. 2	0. 5	2. 7	8 45. 81	+ 0. 12	8. 39	8 8 54. 32	— 12. 32
	Lacaille 3257	26	41. 4	43. 9	45. 4	56. 9	58. 2	59. 6	1. 2	2. 4	14. 3	15. 6	18. 1	12 59. 73	+ 0. 14	8. 39	8 13 8. 26	11. 54
	Lacaille 3267	27	. .	. .	. .	44. 6	45. 9	48. 2	5. 9	8. 6	9. 9	11. 4	13. 1	15 0. 95	— 30. 11	8. 39	8 14 39. 23	12. 02
	* — 29° 13′	28	. .	. .	. .	50. 6	51. 9	53. 2	54. 6	55. 8	6. 8	8. 2	10. 5	16 58. 95	— 5. 56	8. 39	8 17 1. 78	12. 20
	* — 26° 41′	29	11. 3	13. 6	14. 8	25. 6	26. 6	28. 0	29. 2	30. 3	41. 2	42. 4	44. 8	20 27. 98	+ 0. 12	8. 39	8 20 36. 49	12. 48
	* — 28° 12′	30	29. 8	32. 0	33. 4	44. 3	45. 4	46. 7	47. 9	49. 2	. .	. .	. .	22 41. 09	5. 78	8. 39	8 22 55. 26	12. 37
	* — 28° 11′	31	3. 1	5. 4	6. 7	17. 6	18. 7	20. 0	21. 4	22. 6	33. 6	35. 0	37. 3	23 20. 13	+ 0. 12	8. 39	8 23 28. 64	12. 38
	Lacaille 3341	32	. .	. .	. .	39. 6	40. 9	43. 1	0. 3	3. 0	4. 4	5. 8	7. 4	23 55. 56	— 29. 41	8. 39	8 23 34. 54	12. 37
	* — 23° 42′	33	5. 0	7. 3	8. 6	19. 0	20. 1	21. 5	22. 7	23. 9	34. 4	35. 7	37. 7	27 21. 45	+ 0. 11	8. 39	8 27 29. 95	12. 83
	O. Arg. S. 8776	34	3. 0	5. 1	6. 4	16. 9	17. 9	19. 2	20. 5	21. 7	32. 4	33. 6	35. 7	31 19. 31	0. 11	8. 38	8 31 27. 80	12. 86
	* — 31° 40′	†35	23. 7	26. 1	27. 6	38. 7	39. 8	41. 3	42. 6	43. 8	55. 3	56. 5	59. 0	34 41. 31	0. 13	8. 38	8 34 49. 82	12. 20
	* — 23° 42′	36	15. 0	17. 1	18. 5	28. 8	30. 0	31. 3	32. 6	33. 6	44. 3	45. 6	47. 7	36 31. 32	0. 11	8. 38	8 36 39. 81	12. 92
	* — 30° 28′	37	1. 7	4. 0	5. 4	16. 5	17. 7	19. 1	20. 4	21. 6	32. 8	34. 2	36. 6	39 19. 09	0. 13	8. 38	8 39 27. 60	12. 38
	O Arg. S. 8993	38	10. 6	12. 9	14. 2	25. 0	26. 1	27. 4	28. 8	29. 9	40. 8	42. 1	44. 4	41 27. 47	0. 12	8. 38	8 41 35. 97	12. 69
	* — 27° 44′	39	34. 0	36. 2	37. 7	48. 5	49. 5	50. 9	52. 3	53. 4	4. 3	5. 5	8. 0	43 50. 94	0. 12	8. 38	8 43 59. 44	12. 68
	O. Arg. S. 9127	40	5. 2	7. 4	8. 9	20. 0	21. 1	22. 5	23. 9	25. 1	36. 3	37. 7	40. 0	48 22. 55	0. 13	8. 38	8 48 31. 06	12. 48
	O. Arg. S. 9154	41	33. 8	36. 0	37. 5	. .	. .	. .	. .	. .	5. 0	6. 4	8. 8	49 51. 25	0. 08	8. 38	8 49 59. 71	12. 50
	O. Arg. S. 9155	42	. .	. .	. .	49. 1	50. 3	51. 6	53. 0	54. 3	. .	. .	. .	49 51. 66	+ 0. 19	8. 38	8 50 0. 23	12. 51
	Lacaille 3617	43	. .	. .	. .	17. 9	19. 3	21. 6	39. 3	42. 2	43. 6	45. 2	46. 7	53 34. 48	— 30. 36	8. 37	8 53 12. 49	12. 49
	* — 26° 57′	44	. .	. .	. .	22. 5	23. 9	26. 2	43. 2	45. 9	47. 2	48. 6	50. 1	55 38. 45	— 29. 07	8. 37	8 55 17. 75	12. 88
	κ Cancri	45	1. 7	3. 8	5. 0	14. 7	15. 7	16. 9	18. 2	19. 5	29. 1	30. 2	32. 4	0 16. 90	+ 0. 04	8. 37	9 0 25. 31	15. 63
	O. Arg. S. 9418	46	24. 3	26. 6	28. 0	38. 9	40. 0	41. 4	42. 7	43. 9	55. 0	56. 3	58. 6	3 41. 43	0. 12	8. 37	9 3 49. 92	12. 82
	Lacaille 3718	47	8. 7	11. 0	12. 3	23. 2	24. 2	25. 6	26. 9	28. 0	39. 1	40. 5	42. 7	6 25. 65	+ 0. 12	8. 37	9 6 34. 14	12. 92
	O. Arg. S. 9489	48	. .	. .	. .	1. 8	3. 2	5. 4	22. 5	25. 2	26. 6	28. 0	29. 6	8 17. 79	— 29. 21	8. 37	9 7 56. 95	13. 00
	O. Arg. S. 9496	49	. .	. .	. .	. .	. .	. .	42. 9	45. 7	47. 0	48. 5	50. 1	8 46. 84	— 37. 82	8. 37	9 8 17. 39	13. 01
	83 Cancri	50	1. 9	3. 8	5. 1	15. 1	16. 1	17. 4	18. 7	19. 8	30. 0	31. 3	33. 5	11 17. 52	+ 0. 03	+ 8. 36	9 11 25. 91	— 16. 10

21. Several stars in the field.
35. Duplex; companion very faint.

March 3, 12h. Image east $0^{r}.17$. Clamp east.
Fine night; stars steady.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
March 3, 11. 5	+ 8. 30	— 0. 028	+ 0. 060
3, 20. 6	+ 8. 18	— 0. 028	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 3	O. Arg. S. 11394 .	1	13. 8	16. 0	17. 3	27. 6	28. 7	29. 9	31. 2	32. 3	42. 9	44. 0	46. 2	20 29.99	+ 0. 11	+ 8. 31	11 20 38.41	— 14.78
Y.	O. Arg. S. 11410 .	2	15. 8	17. 9	19. 2	39. 6	30. 7	32. 0	33. 2	34. 4	44. 8	46. 1	48. 4	21 32.00	0. 11	8. 31	11 21 40.42	14.79
	O. Arg. S, 11444 .	3	53. 4	55. 5	57. 0	7. 4	8. 6	9. 9	11. 2	12. 4	23. 1	24. 3	26. 5	24 9.94	+ 0. 12	8. 30	11 24 18.36	14.81
	Lacaille 4777 . .	4	. .	. .	. .	4. 7	6. 0	7. 5	9. 0	10. 2	22. 2	23. 5	25. 9	26 13.62	— 5. 94	8. 30	11 26 15.98	14.86
	* — 35° 26′ . .	5	16. 3	18. 9	20. 3	32. 0	33. 3	34. 6	36. 2	37. 5	49. 1	50. 7	53. 2	27 34.74	+ 0. 14	8. 30	11 27 43.18	14.88
	υ Leonis	6	. .	. .	. .	5. 2	6. 6	8. 5	23. 8	26. 1	27. 4	28. 7	29. 8	30 19.51	— 25.96	8. 30	11 30 1.85	14.95
	* — 27 43′ . . .	7	6. 5	8. 7	10. 0	20. 9	21. 9	23. 3	24. 6	25. 8	36. 8	38. 1	40. 3	33 23.35	+ 0. 12	8. 30	11 33 31.77	14.93
	β Leonis	8	46. 0	48. 1	49. 5	59. 2	0. 2	1. 4	2. 7	3. 9	13. 9	15. 0	17. 1	42 1.55	0. 03	8. 29	11 42 9.87	14.87
	Iris	9	7. 2	9. 1	10. 4	20. 0	21. 0	22. 2	23. 5	24. 5	34. 1	35. 3	37. 4	46 22.25	+ 0. 07	8. 29	11 46 30.61	. .
	B. A. C. 4070 . .	10	4. 0	35. 0	53. 5	22. 0	37. 0	. .	15. 0	32. 0	2. 0	21. 0	52. 0	57 57.35	— 0. 72	8. 29	11 58 4.92	27.97
	Moon II . . .	†11	47. 6	49. 8	51. 0	1. 4	2. 5	3. 7	5. 0	6. 1	16. 4	17. 7	19. 9	41 3.74	+ 0. 09	8. 07	19 41 11.90	. .
	α Aquilæ	12	46. 0	48. 0	49. 3	58. 9	59. 9	1. 2	2. 4	3. 5	13. 2	14. 3	16. 4	44 1.19	+ 0. 06	8. 07	19 44 9.32	12.23
R.	α Cygni	13	18. 1	21. 0	22. 9	36. 4	37. 5	39. 0	40. 9	42. 3	55. 9	57. 6	0. 5	36 39.28	— 0. 02	8. 18	. . . .	7.86
	Venus II . . .	14	57. 6	59. 5	0. 9	10. 9	12. 0	13. 3	14. 5	15. 7	25. 8	27. 0	29. 3	49 13.32	+ 0. 09	8. 17	20 49 21.58	— 0.46
4	Sun I	15	11. 6	13. 4	14. 8	24. 3	25. 3	26. 3	27. 5	28. 7	38. 4	39. 6	41. 7	1 26.51	0. 07	8. 11	23 1 34.69	. .
	Sun II	16	21. 7	23. 8	25. 1	34. 7	35. 6	36. 8	38. 0	39. 0	48. 7	50. 0	52. 0	3 36.85	+ 0. 07	8. 11	23 3 45.03	. .
5	λ Ursæ Minoris, S. P.	17	6. 0	51. 0	49. 0	. .	. .	. .	. .	. .	. .	. .	. .	28 55.33	—30 0. 20	7. 41	. . . .	+ 290.98
Y.	* — 30° 45′ . .	18	10. 0	12. 4	13. 8	25. 0	26. 1	27. 5	28. 8	30. 0	41. 2	42. 4	45. 0	47 27.47	+ 0. 20	7. 37	8 47 35.04	— 12.45
	O. Arg. S. 9127 .	19	5. 8	8. 1	9. 6	20. 7	21. 8	23. 3	24. 7	25. 9	37. 1	38. 5	40. 9	48 23.31	+ 0. 20	7. 37	8 48 30.88	12.46
	O. Arg. S. 9154 .	20	10. 3	12. 8	13. 2	14. 5	17. 3	. .	27. 2	30. 0	31. 4	32. 9	34. 4	49 52.40	— 0. 08	7. 37	8 49 59.69	12.47
	O. Arg. S. 9155 .	21	35. 2	37. 5	38. 8	50. 0	51. 1	52. 4	53. 8	55. 1	6. 2	7. 7	10. 6	49 52.53	+ 0. 20	7. 37	8 50 0.10	12.48
	O. Arg. S. 9243 .	22	31. 7	33. 8	35. 1	45. 6	46. 6	47. 9	49. 2	50. 3	0. 9	2. 2	4. 3	54 47.96	0. 16	7. 36	8 54 55.48	13.12
	κ Cancri	23	2. 7	4. 8	5. 9	15. 6	16. 6	17. 9	19. 0	20. 0	30. 0	31. 1	33. 2	0 17.89	0. 02	7. 36	9 0 25.27	15.61
	O. Arg. S. 9418 .	24	25. 1	27. 4	28. 7	39. 7	40. 8	42. 2	43. 6	44. 7	55. 7	57. 2	59. 6	3 42.25	0. 19	7. 36	9 3 49.80	12.80
	Lacaille 3718 . .	25	9. 5	11. 7	13. 0	24. 0	25. 0	26. 5	27. 8	29. 0	40. 0	41. 2	43. 6	6 26.48	+ 0. 19	7. 35	9 6 34.02	12.90
	O. Arg. S. 9489 .	26	. .	. .	. .	. .	. .	. .	23. 3	26. 0	27. 4	29. 0	30. 4	8 27.22	— 37.77	7. 35	9 7 56.80	12.98
	O. Arg. S. 9496 .	27	7. 3	8. 5	9. 7	10. 9	12. 3	. .	43. 9	46. 5	48. 0	49. 3	50. 8	8 28.72	— 18.77	7. 35	9 8 17.30	12.99
	* — 28° 23′ . .	28	31. 9	34. 2	35. 5	46. 4	47. 5	49. 0	50. 2	51. 6	2. 5	3. 7	5. 9	11 48.95	+ 0. 19	7. 35	9 11 56.49	12.96
	O. Arg. S. 9615 .	29	3. 8	5. 2	6. 5	8. 0	10. 5	. .	19. 2	21. 8	23. 2	24. 7	26. 1	14 44.90	— 0. 08	7. 35	9 14 52.17	12.99
	* — 28° 39′ . .	30	. .	. .	. .	26. 0	27. 2	28. 5	29. 9	31. 0	42. 1	43. 4	45. 7	14 34.22	5. 45	7. 35	9 14 36.12	13.00
	O. Arg. S. 9652 .	31	. .	. .	. .	. .	. .	. .	27. 6	30. 4	31. 7	33. 2	34. 8	17 31.54	38.61	7. 34	9 17 0.27	12.94
	O. Arg. S. 9661 .	32	. .	. .	. .	. .	. .	. .	53. 4	56. 2	57. 7	59. 1	0. 5	17 57.38	— 38.61	7. 34	9 17 26.11	12.96
	* — 27° 47′ . .	33	21. 0	23. 4	24. 7	35. 3	36. 5	37. 8	39. 0	40. 3	51. 4	52. 6	54. 8	20 37.89	+ 0. 19	7. 34	9 20 45.42	13.14
	Lacaille 3864 . .	34	38. 3	40. 5	41. 9	52. 7	53. 9	55. 3	56. 5	57. 7	8. 6	9. 9	12. 2	23 55.23	0. 19	7. 34	9 24 2.76	13.19
	O. Arg. S. 9903 .	35	42. 1	44. 2	45. 6	55. 8	56. 9	58. 0	59. 2	0. 4	10. 7	12. 0	14. 1	29 58.09	+ 0. 15	7. 33	9 30 5.57	13.72
	ε Leonis	†36	46. 6	48. 7	50. 1	0. 8	1. 7	3. 2	4. 4	5. 4	16. 0	17. 3	19. 6	38 3.08	— 0. 03	7. 33	9 38 10.38	16.46
	O. Arg. S. 10122 .	37	45. 2	47. 5	48. 8	59. 4	0. 4	1. 6	2. 9	4. 0	14. 7	15. 9	18. 1	42 1.68	+ 0. 17	7. 32	9 42 9.17	13.61
	Lacaille 4132 . .	38	17. 2	19. 4	20. 7	31. 6	32. 7	34. 1	35. 3	36. 5	47. 5	48. 7	50. 9	58 34.05	+ 0. 18	7. 31	9 58 41.54	13.68
	O. Arg. S. 10351 .	39	. .	. .	. .	10. 2	11. 6	13. 5	31. 1	33. 6	35. 1	36. 5	38. 0	59 26.20	— 29.15	7. 31	9 59 4.36	13.68
	Weisse 115 . . .	40	34. 2	36. 2	37. 5	47. 3	48. 3	49. 5	50. 7	51. 8	1. 6	2. 7	4. 6	7 49.49	+ 0. 01	7. 30	10 7 56.80	15.53
	Lacaille 4349 . .	41	9. 4	11. 7	13. 0	24. 3	25. 3	26. 7	28. 1	29. 4	40. 5	42. 0	44. 3	28 26.79	0. 20	7. 28	10 28 34.27	13.98
	Lacaille 4365 . .	42	59. 4	1. 6	3. 1	14. 4	15. 7	17. 1	18. 5	19. 7	31. 2	32. 6	35. 1	30 17.13	0. 21	7. 28	10 30 24.62	13.95
	Lacaille 4387 . .	43	43. 6	46. 2	47. 8	59. 5	0. 6	2. 0	3. 5	4. 8	16. 9	18. 2	20. 7	33 2.16	+ 0. 24	7. 28	10 33 9.68	13.89
	B. A. C. 3677 . .	†44	. .	. .	. .	27. 6	28. 9	31. 5	50. 0	53. 0	54. 5	56. 0	57. 7	35 44.90	— 31.54	7. 28	10 35 20.64	13.96
	O. Arg. S. 10874 .	45	55. 6	56. 6	58. 0	59. 2	0. 4	. .	31. 9	34. 8	36. 3	37. 7	39. 2	40 16.97	— 18.75	7. 27	10 40 5.49	14.24
	O. Arg. S. 10872 .	46	41. 6	43. 9	45. 3	. .	. .	. .	. .	. .	11. 9	13. 3	15. 4	39 58.57	+ 0. 14	7. 27	10 40 5.98	14.24
	B. A. C. 3719 . .	47	. .	. .	. .	30. 4	31. 6	33. 0	34. 5	35. 7	47. 3	48. 6	51. 1	43 39.02	— 5. 71	7. 27	10 43 40.58	14.15
	Lacaille 4506 . .	48	1. 8	4. 0	5. 6	16. 6	17. 8	19. 2	20. 6	21. 8	33. 1	34. 6	37. 0	47 19.28	+ 0. 21	7. 26	10 47 26.75	14.25
	Lacaille 4519 . .	49	. .	. .	. .	. .	. .	. .	56. 5	59. 4	0. 7	2. 3	3. 8	50 0.54	— 39.07	7. 26	10 49 28.73	— 14.30

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 5, 10.5	+ 7.28	— 0.052	. .

11. Very faint; through haze.
36. Unsteady.
44. Preceded by a star 6.5 magnitude, to the southward.

March 5, n. = — 0.22 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 5	χ Leonis	1	40.3	42.4	43.6	53.2	54.3	55.4	56.7	57.8	7.3	8.6	10.7	57 55.48	+ 0.03	+ 7.25	10 58 2.76	− 15.07
Y.	Lacaille 4590 . .	2	. .	. .	. .	13.3	14.5	15.9	17.2	18.3	29.5	30.9	33.1	0 21.59	− 5.51	7.25	11 0 23.33	14.48
	O. Arg. S. 11188 .	3	29.0	31.1	32.5	42.9	44.1	45.5	46.8	47.8	58.6	59.9	2.0	2 45.47	+ 0.17	7.25	11 2 52.89	14.57
	O. Arg. S. 11208 .	4	32.3	34.6	35.9	46.5	47.6	48.8	50.1	51.4	1.9	3.2	5.5	3 48.89	0.17	7.25	11 3 56.31	14.59
	Lacaille 4638 . .	5	58.8	1.1	2.5	13.0	14.1	15.5	16.7	17.8	28.4	29.8	32.0	5 15.43	0.17	7.25	11 5 22.85	14.60
	O. Arg. S. 11250 .	6	36.5	38.8	40.2	50.7	51.8	53.0	54.5	55.6	6.3	7.6	9.8	7 53.16	0.17	7.25	11 8 0.58	14.63
	δ Crateris	7	12.5	14.5	16.0	25.7	26.8	27.9	29.1	30.2	40.2	41.4	43.4	12 27.97	0.12	7.24	11 12 35.33	14.76
	O. Arg. S. 11344 .	8	30.6	32.9	34.0	44.5	45.6	46.9	48.1	49.2	59.8	1.0	3.2	15 46.89	0.16	7.24	11 15 54.29	14.74
	O. Arg. S. 11353 .	9	13.8	16.0	17.3	27.6	28.6	30.0	31.2	32.3	42.9	44.4	46.3	16 30.04	0.16	7.24	11 16 37.44	14.75
	O. Arg. S. 11410 .	10	16.9	19.0	20.4	30.5	31.6	33.0	34.3	35.5	46.0	47.2	49.3	21 33.06	0.16	7.24	11 21 40.46	14.80
	O. Arg. S. 11438 .	11	14.4	16.6	17.9	28.6	29.7	31.0	32.3	33.3	43.9	45.3	47.5	23 30.95	+ 0.17	7.24	11 23 38.36	14.82
	O. Arg. S. 11444 .	12	. .	. .	. .	. .	. .	. .	44.4	47.0	48.4	49.7	51.1	24 48.12	− 37.00	7.25	11 24 18.35	14.83
	γ Cephei, S. P. . .	13	42.4	33.6	28.5	46.7	42.1	36.9	32.0	27.4	44.3	39.5	30.0	33 36.67	+ 0.68	7.22	11 33 44.67	6.71
	B. A. C. 3974 . .	14	. .	. .	. .	. .	. .	. .	14.3	17.4	18.9	20.6	22.2	37 18.68	− 41.56	7.22	11 36 44.34	15.07
	β Leonis	15	47.1	49.0	50.4	0.4	1.4	2.6	3.9	5.0	15.0	16.2	18.3	42 2.66	0.00	7.22	11 42 9.88	14.89
	Iris	16	18.3	20.4	21.7	31.2	32.1	33.4	34.5	35.6	45.3	46.5	48.5	44 33.41	+ 0.09	7.22	11 44 40.72	. .
6	α Cygni	†17	19.9	22.3	24.3	37.8	39.0	40.8	42.5	43.8	57.4	59.2	2.0	36 40.82	0.05	6.57	20 36 47.44	7.95
R.	Venus II . . .	18	51.9	53.9	55.2	5.1	6.4	7.6	8.9	9.9	19.8	21.2	23.5	4 7.58	+ 0.07	6.57	21 4 14.22	0.46
	β Cephei	19	. .	. .	. .	37.9	40.8	44.8	48.0	51.4	19.0	22.6	28.5	26 59.12	− 14.37	6.56	21 26 51.31	0.98
	ε Pegasi	20	8.8	11.0	12.3	21.6	22.8	24.1	25.2	26.2	35.9	37.1	39.2	37 24.02	+ 0.06	6.56	21 37 30.64	12.05
	Mercury II . . .	21	0.2	2.3	3.5	13 4	14.5	15.8	16.9	17.9	28.0	29.4	31.4	55 15.75	0.07	6.55	21 55 22.37	0.19
7	Sun I	22	20.1	22.0	23.3	32.7	33.8	35.1	36.3	37.3	47.0	48.0	50.2	12 35.07	0.06	6.53	23 12 41.66	. .
	Sun II	23	29.9	31.9	33.1	42.8	43.7	45.0	46.2	47.2	56.9	58.0	0.1	14 44.98	0.06	6.53	23 14 51.57	. .
	Polaris	†24	. .	. .	. .	19.0	0.0	47.0	34.0	17.0	. .	. .	. .	8 47.40	3.07	6.50	. . . .	54.56
	β Arietis	25	46.2	48.3	49.7	59.7	0.8	2.0	3.2	4.5	14.6	16.0	18.2	47 2.11	0.05	6.49	1 47 8.65	13.82
	α Arietis	26	8.7	10.9	12.3	22.7	23.6	25.0	26.3	27.4	37.8	39.0	41.2	59 24.99	0.05	6.49	1 59 31.53	14.17
	Lacaille 4387 . .	27	44.8	47.3	48.8	0.6	1.7	3.2	4.7	6.0	17.9	19.3	21.8	33 3.28	0.15	6.35	10 33 9.78	13.90
	l Leonis	28	47.2	49.6	50.6	0.3	1.4	2.6	3.7	4.8	14.7	15.9	18.0	42 2.62	+ 0.04	6.35	10 42 9.01	15.33
	O. Arg. S. 10944	29	. .	. .	. .	5.9	6.9	8.3	9.6	10.8	21.5	22.8	24.9	46 13.84	− 5.39	6.35	10 46 14.80	14.37
	Lacaille 4505 . .	30	7.7	9.8	11.0	21.7	22.8	24.0	25.4	26.4	37.3	38.8	40.9	47 24.16	+ 0.12	6.35	10 47 30.63	14.38
	O. Arg. S. 11020 .	31	39.0	41.2	42.5	52.9	54.0	55.4	56.7	57.7	8.2	9.5	11.7	51 55.35	0.11	6.35	10 52 1.81	14.48
	Weisse 1049 . .	32	41.0	43.1	44.4	54.3	55.2	56.5	57.6	58.6	. .	. .	. .	58 51.34	+ 5.17	6.34	10 59 2.85	15.32
	Weisse 1060 . .	33	. .	. .	. .	32.3	33.6	35.7	51.4	53.9	55.0	56.3	57.6	59 46.98	− 26.70	6.34	10 59 26.62	15.32
	δ Leonis	34	32.7	34.7	36.2	46.4	47.4	48.6	49.7	50.8	1.4	2.6	4.9	6 48.67	+ 0.03	6.34	11 6 55.04	15.53
	Lacaille 4693 . .	35	34.7	36.9	38.2	48.6	49.7	50.9	52.3	53.3	3.9	5.1	7.5	11 51.01	0.11	6.34	11 11 57.46	14.71
	O. Arg. S. 11344 .	36	31.9	33.8	35.2	45.5	46.6	48.0	49.3	50.6	0.8	2.0	4.4	15 48.01	0.11	6.34	11 15 54.46	14.76
	O. Arg. S. 11353 .	37	. .	. .	. .	28.8	29.9	31.1	32.5	33.5	43.8	45.1	47.5	16 36.52	5.27	6.34	11 16 37.59	14.76
	τ Leonis	38	37.8	39.9	41.0	50.7	51.8	52.8	54.0	55.1	4.8	5.8	8.0	20 52.88	+ 0.05	6.34	11 20 59.27	15.04
	Weisse 365 . . .	39	. .	. .	. .	20.9	21.8	23.0	24.2	25.3	34.9	36.0	38.2	21 28.04	− 4.92	6.34	11 21 29.46	15.03
	O. Arg. S. 11491 .	40	. .	. .	. .	11.5	12.6	14.0	15.3	16.5	27.6	29.0	31.4	28 19.74	− 5.55	6.34	11 28 20.53	14.90
	* — 26° 5′ . . .	41	10.1	12.4	13.7	24.3	25.4	26.8	28.1	29.3	40.0	41.3	43.5	32 26.81	+ 0.12	6.34	11 32 33.27	14.94
	Lacaille 4881 . .	42	10.7	13.0	14.5	. .	. .	. .	.	. .	40.9	42.2	44.5	39 27.63	0.08	6.33	11 39 34.04	15.04
8	κ Cancri	43	4.1	6.3	7.5	17.3	18.2	19.3	20.5	21.6	31.5	32.6	34.8	0 19.43	+ 0.04	5.73	9 0 25.20	15.59
Y.	* — 27° 45′ . .	44	. .	. .	. .	53.7	54.8	56.0	57.5	58.7	9.6	11.0	13.2	6 1.81	− 5.44	5.73	9 6 2.10	12.92
	O. Arg. S. 9488 .	45	29.2	31.5	32.9	43.9	45.0	46.3	47.6	48.8	59.8	1.0	3.3	7 46.30	+ 0.16	5.73	9 7 52.19	12.94
	* — 28° 33′ . .	46	33.5	35.9	37.3	48.2	49.3	50.5	51.8	52.9	4.3	5.4	7.7	11 50.62	0.16	5.73	9 11 56.51	12.94
	O. Arg. S. 9615 .	47	29.3	31.4	32.7	43.7	44.7	46.1	47.5	48.7	59.7	1.0	3.5	14 46.21	0.16	5.75	9 14 52.10	12.98
	* — 28° 29′ . .	48	5.6	7.6	8.9	19.9	21.0	22.3	23.6	24.9	35.8	37.3	39.5	17 22.40	+ 0.16	5.73	9 17 28.29	13.02
	* — 28° 28′ . .	49	. .	. .	. .	45.6	47.8	50.2	7.5	10.3	11.6	13.1	14.6	18 2.59	− 29.43	5.73	9 17 38.89	13.03
	* — 28° 28′ . .	50	. .	. .	. .	48.7	50.0	52.4	9.6	12.3	13.7	15.0	16.5	19 4.78	− 29.43	+ 5.73	9 18 41.08	− 13.04

17. Very unsteady.
24. Very unsteady.

March 6–7, 20h. to 2h. n. = — 0.03 s.
7, 10h. to 12h. — 0.10.
8, 9h. to 13h. — 0.15.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 7, 4.4	+ 6.45	— 0.016	+ 0.060
8, 10.9	5.76	+ 0.018	+ 0.070
22.1	+ 5.45	— 0.073	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 8 Y	Lacaille 3864 . .	1	40.0	42.1	43.5	54.3	55.4	56.8	58.0	59.2	10.1	11.5	13.7	23 56.78	+ 0.16	+ 5.73	9 24 2.67	— 13.17
	O. Arg. S. 9903 .	2	43.8	46.0	47.2	57.4	58.4	59.7	1.0	2.1	12.3	13.5	15.7	29 59.74	0.13	5.73	9 30 5.60	13.70
	* — 35° 24′ . .	3	35.5	38.0	39.4	51.2	52.4	53.8	55.3	56.6	8.2	9.7	12.4	34 53.86	0.19	5.74	9 34 59.79	12.83
	* — 24° 34′ . .	†4	37.0	39.2	40.5	. .	. .	.	. .	. .	6.2	7.4	9.7	40 53.33	0.11	5.74	9 40 59.18	13.58
	μ Leonis	5	41.5	43.7	45.3	56.1	57.0	58.5	59.7	0.8	11.6	13.1	15.3	44 58.42	0.00	5.74	9 45 4.16	16.49
	* — 37″ 45′ . .	†6	54.7	56.9	58.6	10.7	11.9	13.3	14.8	16.1	28.2	29.8	32.3	48 13.39	0.21	5.74	9 48 19.34	12.93
	B. A. C. 3405 . .	7	18.4	20.6	22.0	33.4	34.6	36.0	37.5	38.6	50.2	51.5	54.0	50 36.07	0.18	5.74	9 50 41.99	13.27
	O. Arg. S. 10471 .	8	28.0	30.1	31.5	41.9	42.9	44.2	45.4	46.6	57.0	58.3	0.6	7 44.23	+ 0.14	5.75	10 7 50.12	13.98
	Lacaille 4218 . .	9	. .	. .	. .	46.7	47.8	49.1	50.5	51.6	2.8	4.1	6.4	9 54.88	— 5.45	5.75	10 9 55.18	13.81
	Lacaille 4253 . .	10	50.0	52.5	54.0	6.3	7.6	9.2	10.7	12.0	24.4	25.9	28.4	14 9.18	+ 0.21	5.75	10 14 15.14	13.40
	Rumker 3171 . .	11	11.6	13.7	14.9	24.6	25.6	26.7	28.0	29.0	39.0	40.2	42.2	17 26.86	0.04	5.75	10 17 32.65	15.47
	Weisse 377 . . .	12	50.0	52.3	53.4	3.2	4.2	5.3	6.4	7.6	17.4	18.6	20.8	22 5.38	0.04	5.75	10 22 11.17	15.42
	Weisse 439 . . .	13	20.7	22.6	23.8	33.5	34.6	35.8	37.0	38.1	47.8	49.0	51.1	25 35.82	0.04	5.75	10 25 41.61	15.40
	Lacaille 4363 . .	14	54.0	56.5	57.6	8.5	9.6	10.8	12.3	13.5	24.3	25.8	28.0	30 10.99	0.16	5.75	10 30 16.90	14.09
	Lacaille 4389 . .	15	16.4	18.8	20.2	31.5	32.7	34.2	35.6	36.8	48.3	49.6	52.0	33 34.19	0.18	5.75	10 33 40.12	14.00
	Lacaille 4419 . .	16	37.0	39.5	41.0	52.0	53.2	54.6	56.0	57.2	8.5	9.8	12.3	36 54.65	0.17	5.75	10 37 0.57	14.11
	ι Leonis	17	48.0	50.1	51.4	1.2	2.1	3.3	4.5	5.6	15.4	16.4	18.6	42 3.33	+ 0.04	5.76	10 42 9.13	15.34
	Lacaille 4488 . .	18	.	. .	. .	17.8	19.3	21.6	39.7	42.5	43.9	45.6	47.2	44 34.70	— 30.88	5.76	10 44 9.58	14.17
	B. A. C. 3755 . .	19	1.6	4.0	5.6	17.5	18.6	20.1	21.7	23.0	35.0	36.4	38.9	50 20.22	+ 0.20	5.76	10 50 26.18	14.22
	B. A. C. 3792 . .	20	8.0	10.5	11.9	23.5	24.7	26.2	27.6	28.9	40.6	41.9	44.6	58 26.22	0.19	5.76	10 58 32.17	14.39
	Lacaille 4607 . .	21	6.2	8.6	10.1	22.3	23.5	25.1	26.6	27.9	40.0	41.5	44.2	1 25.09	0.20	5.76	11 1 31.05	14.42
	Lacaille 4642 . .	22	21.3	23.7	25.0	36.3	37.3	38.7	40.0	41.3	52.7	53.9	56.5	5 38.79	+ 0.18	5.76	11 5 44.73	14.55
	Lacaille 4668 . .	23	58.8	0.6	2.1	3.7	6.5	. .	22.4	25.7	27.2	28.7	30.3	8 44.60	— 0.09	5.76	11 8 50.27	14.56
	Lacaille 4680 . .	24	2.0	4.8	6.1	18.2	19.4	21.0	22.5	23.9	35.9	37.6	40.2	10 21.05	+ 0.20	5.77	11 10 27.02	14.59
	O. Arg. S. 11344 .	25	32.2	34.4	. .	45.9	47.0	48.3	49.6	50.8	. .	2.4	4.6	15 48.36	+ 0.15	5.77	11 15 54.28	14.76
	O. Arg. S. 11353 .	26	. .	. .	.	. .	. .	. .	4.3	7.1	8.3	9.7	11.0	17 8.08	— 36.40	5.77	11 16 37.45	14.77
	τ Leonis	27	38.4	40.5	41.7	51.3	52.3	53.5	54.6	55.6	5.2	6.4	8.4	20 53.45	+ 0.06	5.77	11 20 59.28	— 15.05
	B. A. C. 8213, S. P.	28	. .	. .	. .	3.0	47.5	27.0	7.0	48.0	. .	. .	. .	27 26.50	0.54	5.77	23 27 32.81	+ 15.46
	* — 27° 43′ . .	29	8.8	11.3	12.5	23.4	24.5	25.8	27.2	28.3	39.3	40.5	42.9	33 25.86	0.16	5.77	11 33 31.79	— 14.97
	B. A. C. 3974 . .	30	19.7	22.1	23.8	35.5	36.7	38.3	39.7	41.0	52.9	54.5	57.0	36 38.29	0.20	5.77	11 36 44.26	15.10
	* — 7° 22′ . . .	†31	49.2	51.0	52.2	1.7	2.7	3.7	4.9	5.8	. .	. .	. .	40 58.90	5.12	5.77	11 41 9.79	14.98
	* — 35° 12′ . .	32	56.4	58.7	0.2	12.0	13.0	14.4	15.9	17.2	29.2	30.7	33.2	47 14.64	+ 0.19	5.78	11 47 20.61	15.27
	O. Arg. S. 11796 .	33	. .	. .	. .	. .	. .	. .	42.5	45.1	46.5	48.0	49.5	51 46.32	— 37.57	5.78	11 51 14.53	15.18
	B. A. C. 4070 . .	†34	. .	. .	. .	30.5	45.0	2.0	19.0	36.5	. .	. .	. .	58 2.60	— 0.50	5.78	11 58 7.88	28.55
	ε Corvi	35	49.0	51.1	52.5	2.8	3.8	5.1	6.3	7.4	17.9	19.2	21.4	3 5.14	+ 0.14	5.78	12 3 11.06	15.23
	* — 25° 47′ . .	36	37.0	40.0	41.4	52.1	53.1	54.5	55.7	56.9	7.7	8.9	11.2	8 54.49	+ 0.15	5.78	12 9 0.42	15.37
	* — 25° 48′ . .	37	. .	. .	. .	58.7	0.1	2.3	19.2	21.8	23.2	24.7	26.0	9 14.50	— 28.74	5.78	12 8 51.54	15.37
	η Virginis	†38	. .	. .	. .	51.6	52.4	53.5	54.7	55.7	. .	. .	. .	13 53.58	+ 0.12	5.78	12 13 59.48	14.93
R.	α Cygni	39	20.9	23.6	25.5	38.6	40.2	41,9	43.6	45.0	58.6	0.3	3.0	36 41.93	0.06	5.60	20 36 47.59	7.97
	Venus II . . .	40	43.7	45.7	47.1	57.0	58.0	59.3	0.5	1.6	11.7	12.9	15.1	13 59.33	0.08	5.52	21 14 4.93	0.46
	β Cephei	41	1.8	7.4	11.4	39.3	42.2	45.6	48.9	52.0	20.4	23.8	29.8	26 45.69	0.09	5.50	21 26 51.28	1.05
	ε Pegasi	42	10.0	12.0	13.2	22.9	23.8	25.0	26.3	27.3	37.2	38.3	40.4	37 25.13	0.06	5.49	21 37 30.68	12.08
9	Sun I	43	43.7	45.6	46.9	56.5	57.5	58.6	59.8	1.0	10.6	11.7	13.9	19 58.71	0.07	5.36	23 20 4.14	. .
	Sun II	44	53.5	55.5	56.9	6.2	7.2	8.3	9.5	10.6	20.4	21.6	23.6	22 8.48	0.07	5.36	23 22 13.91	. .
	α Andromedæ . .	45	59.7	1.9	3.3	14.1	15.3	16.6	17.9	19.1	30.2	31.5	33.7	1 16.66	0.06	5.35	0 1 22.07	12.60
	Polaris	†46	. .	. .	. .	18.0	1.0	48.0	38.0	18.0	. .	. .	. .	8 48.60	3.15	5.23	1 8 56.98	53.63
	Lacaille 3621 . .	47	33.3	35.6	37.0	47.8	48.9	50.2	51.4	52.5	3.6	4.8	7.1	53 50.20	0.13	5.53	8 53 55.86	12.78
	* — 27° 17′ . .	48	54.8	57.0	58.5	8.9	10.2	11.5	12.7	14.0	24.8	26.1	28.5	56 11.55	0.13	5.53	8 56 17.21	12.81
	κ Cancri	49	4.4	6.4	7.8	17.3	18.5	19.7	20.8	21.9	31.7	32.9	35.0	0 19.67	0.05	5.52	9 0 25.24	15.58
	* — 27° 46′ . .	50	39.8	41.9	43.3	54.0	55.2	56.5	57.9	59.1	10.0	11.3	13.6	5 56.60	+ 0.13	+ 5.52	9 6 2.25	— 12.91

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 9, 10.4	+ 5.42	— 0.073	+ 0.070

4. Faint.
6. Faint.
31. Faint.
34. Unsteady.
38. Unsteady.
46. Unsteady.

March 8–9, 20h. to 2h. n. = — 0.04 s.
9, 8h. to 13h. — 0.10.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. Mar. 9	O. Arg. S. 9468	1	29.9	32.0	33.3	43.9	45.0	46.5	47.7	49.0	59.8	1.2	3.5	7 46.53	+ 0.13	+ 5.52	9 7 52.18	− 12.93
R.	* — 28° 39′	2	..	..	..	27.9	28.9	30.3	31.7	32.9	43.8	45.0	47.3	14 35.98	− 5.51	5.51	9 14 35.98	12.96
	* — 28° 45′	3	..	..	..	0.1	1.2	3.6	21.0	23.7	25.2	26.5	28.0	15 16.16	29.53	5.51	9 15 2.14	12.96
	* — 28° 29′	4	..	..	..	49.0	50.3	52.7	9.6	12.6	13.8	15.1	..	19 3.30	27.76	5.50	9 18 41.04	13.03
	ε Antliæ	5	..	..	.	32.5	33.6	35.0	36.5	37.8	49.7	51.2	53.7	23 41.25	− 5.93	5.49	9 23 40.81	12.62
	O. Arg. S. 9903	6	44.2	46.2	47.5	57.6	58.7	0.0	1.2	2.4	12.6	14.0	16.0	30 0.04	+ 0.11	5.49	9 30 5.64	13.70
	* — 20° 22′	7	55.3	57.5	58.7	8.9	9.9	11.1	12.3	13.6	23.8	25.0	27.1	32 11.20	0.11	5.48	9 32 16.79	13.72
	ε Leonis	8	48.4	50.6	52.0	2.5	3.6	4.9	6.2	7.3	17.9	19.1	21.4	38 4.90	0.03	5.48	9 38 10.41	16.44
	O. Arg. S. 10131	9	13.1	15.5	16.7	27.9	29.0	30.4	31.7	32.9	43.9	45.5	47.9	42 30.41	0.14	5.47	9 42 36.02	13.31
	Lacaille 4089	10	18.0	20.3	21.6	32.4	33.5	34.9	36.2	37.5	48.4	49.8	52.3	52 34.99	0.14	5.46	9 52 40.59	13.52
	O. Arg. S. 10337	11	45.0	47.2	48.6	58.9	59.9	1.3	2.6	3.7	14.3	15.7	17.8	58 1.36	0.12	5.45	9 58 6.93	13.84
	Lacaille 4218	12	32.8	35.0	36.5	47.3	48.4	49.6	51.1	52.2	3.0	4.5	6.8	9 49.75	+ 0.13	5.44	10 9 55.32	13.80
	γ Leonis	13	..	..	..	38.0	39.4	41.5	57.8	0.4	1.6	3.0	4.3	12 53.25	− 27.74	5.43	10 12 30.94	16.02
	χ Leonis	†14	42.0	44.1	45.4	55.0	56.0	57.3	58.4	59.5	9.3	10.3	12.5	57 57.25	+ 0.06	5.38	10 58 2.69	15.09
	Weisse 758	15	56.5	58.6	59.8	9.3	10.3	11.5	12.7	13.7	23.5	24.6	26.7	44 11.56	+ 0.08	5.32	11 44 16.96	14.99
	4 Draconis	16	32.9	43.0	48.4	36.5	40.9	47.7	53.3	58.4	46.6	52.0	2.3	5 47.45	− 0.14	5.30	12 5 52.61	17.45
	η Virginis	17	39.4	41.3	42.4	52.0	53.0	54.3	55.5	56.5	6.1	7.3	9.3	12 54.28	+ 0.07	5.29	12 12 59.64	14.94
11	α Cygni	18	22.3	25.1	26.9	40.3	41.5	43.3	44.9	46.5	0.0	1.6	4.5	36 43.35	0.00	4.32	20 36 47.67	8.05
	β Cephei	19	3.6	9.3	12.8	40.8	43.5	47.1	50.5	53.9	21.8	25.4	31.1	26 47.25	− 0.07	4.30	21 26 51.48	1.18
Y.	Venus II	20	23.8	25.8	27.2	37.1	38.1	39.2	40.5	41.6	51.7	52.7	55.0	28 39.34	+ 0.10	4.30	21 28 43.74	0.45
	ε Pegasi	21	11.1	13.2	14.5	24.0	25.0	26.2	27.5	28.5	38.3	39.5	41.5	37 26.30	0.05	4.30	21 37 30.65	12.13
	Mercury II	22	20.5	22.4	23.7	33.4	34.4	35.6	36.9	37.9	47.9	49.1	51.3	26 35.74	0.09	4.28	22 26 40.11	0.18
12	Sun II	23	55.9	57.8	59.2	8.5	9.6	10.8	11.9	13.0	22.8	24.0	25.9	33 10.85	+ 0.08	4.26	23 33 15.19	64.68
	Polaris	24	45.0	5.0	53.5	21.0	1.0	49.5	37.5	19.0	52.0	41.0	0.0	8 51.32	− 1.22	4.23	1 8 54.33	52.73
	β Arietis	25	48.4	50.5	51.8	1.9	3.0	4.3	5.6	6.7	16.9	18.2	20.3	47 4.33	+ 0.04	4.22	1 47 8.59	13.79
	α Arietis	26	10.9	13.0	14.4	24.7	25.8	27.2	28.4	29.6	40.1	41.3	43.6	59 27.18	0.03	4.21	1 59 31.42	14.12
	η Tauri	27	5.0	7.1	8.5	18.9	20.0	21.3	22.5	23.7	34.1	35.5	37.8	39 21.31	0.03	4.18	3 39 25.52	− 15.35
	δ Ursæ Minoris, S. P.	28	7.0	33.3	11.5	31.5	16.0	55.0	35.5	17.0	40.0	14.7	41.0	15 54.77	+ 0.50	4.13	18 15 59.40	+ 90.63
	51 Cephei	†29	29.5	58.0	23.0	48.0	35.0	..	27.7	17.5	43.0	10.5	37.7	36 0.09	− 2.97	4.12	6 36 1.24	− 142.73
		†30	46.7	26.5	53.0	12.0	31.0	57.0	21.7	40.0	4.2	29.0	11.0					
	Canis Majoris	31	18.4	20.4	21.7	31.5	32.6	33.8	35.0	36.2	46.1	47.5	49.4	57 33.87	+ 0.10	4.11	6 57 38.08	12.70
	O. Arg. S. 6232	32	10.1	12.4	13.7	24.3	25.5	26.8	28.1	29.3	40.0	41.3	43.5	1 26.82	0.15	4.11	7 1 31.08	11.48
	* — 28° 31′	†33	18.1	20.4	21.8	32.6	33.7	35.1	36.4	37.6	48.6	49.9	52.2	4 35.13	+ 0.16	4.11	7 4 39.40	11.27
	* — 27° 8′	34	4.0	..	..	..	..	..	8.2	11.0	12.4	13.8	15.1	7 12.10	− 37.65	4.11	7 6 38.56	11.45
	O. Arg. S. 6431	35	48.4	50.6	52.0	2.6	3.8	5.2	6.5	7.7	18.5	19.8	22.1	8 5.20	+ 0.16	4.11	7 8 9.47	11.47
	O. Arg. S. 6489	36	..	..	..	48.9	50.1	51.4	52.8	53.9	..	..	..	9 51.42	0.21	4.11	7 9 55.74	11.37
	* — 29° 37′	37	37.7	40.0	41.3	52.4	53.4	54.9	56.2	57.4	8.5	9.8	12.2	12 54.89	0.17	4.11	7 12 59.17	11.22
	* — 31° 1′	38	4.2	6.5	8.0	19.2	20.3	21.7	23.0	24.3	35.4	37.0	39.3	17 21.72	0.17	4.11	7 17 26.00	11.10
	O. Arg. S. 6858	39	3.3	5.5	6.9	17.7	18.7	20.2	21.5	22.6	33.5	35.0	37.2	22 20.19	0.16	4.10	7 22 24.45	11.51
	O. Arg. S. 6941	40	40.7	43.0	44.3	55.3	56.4	57.6	59.1	0.2	11.2	12.6	14.9	24 57.68	+ 0.16	4.10	7 25 1.94	11.49
	O. Arg. S. 6946	41	20.9	22.4	23.8	25.0	27.6	..	36.1	38.9	40.2	41.6	43.0	25 1.95	− 0.11	4.10	7 25 5.94	11.49
	* — 29° 41′	42	52.8	55.1	56.3	7.5	8.6	9.9	11.3	12.5	..	..	..	30 4.25	+ 5.91	4.10	7 30 14.26	11.41
	* — 29° 44′	43	..	..	..	18.0	19.2	20.6	21.9	23.1	34.3	35.6	37.9	30 26.32	− 5.54	4.10	7 30 24.88	11.41
	* — 29° 48′	44	..	..	..	55.9	57.0	58.4	59.8	1.0	..	..	..	31 58.42	+ 0.22	4.10	7 32 2.74	11.42
	O. Arg. S. 7239	45	53.6	55.9	57.3	8.0	9.1	10.3	11.8	12.9	23.8	25.3	27.5	35 10.50	0.16	4.10	7 35 14.76	11.71
	O. Arg. S. 7286	46	24.6	26.9	28.3	39.3	40.4	41.8	43.2	44.4	55.5	56.9	59.2	36 41.86	0.17	4.10	7 36 46.13	11.47
	* — 27° 16′	47	21.7	23.9	25.4	36.1	37.3	38.5	39.7	40.9	51.9	53.3	55.5	40 38.56	0.16	4.10	7 40 43.82	11.81
	O. Arg. S. 7445	48	..	..	..	9.8	10.9	12.2	13.4	14.7	..	..	..	42 12.20	+ 0.21	4.10	7 42 16.51	11.82
	O. Arg. S. 7473	49	..	..	..	..	..	..	54.0	56.8	58.3	59.7	1.2	43 58.00	− 38.64	4.10	7 43 23.46	11.55
	* — 26° 4′	50	..	..	..	37.4	38.5	39.7	41.0	42.1	..	..	..	46 39.74	+ 0.20	+ 4.10	7 46 44.04	− 11.95

14. Stars very faint.
29–30. Steady.
33. The only star seen.

March 11–12, 20h. to 7h. n. = — 0.10 s.
12, 7h. to 9h. — 0.15.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 12, 6.1	+ 4.13	— 0.020	+ 0.070

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 12 Y.	* — 26° 3′ . . .	1	7.4	9.7	11.0	21.6	22.7	24.1	25.5	26.7	. .	. .	. .	47 18.59	+ 5.70	+ 4.10	7 47 28.39	— 12.02
	* — 25° 59′ . .	2	1.1	3.3	4.7	15.2	16.3	17.7	19.0	20.2	30.8	32.2	34.3	48 17.71	+ 0.15	4.10	7 48 21.96	12.03
	* — 30° 32′ . .	3	. .	. .	. .	3.1	4.5	6.9	24.4	27.3	28.7	30.2	31.6	50 19.59	— 30.03	4.10	7 49 53.66	11.56
	O. Arg. S. 7758 .	4	43.9	46.0	47.5	58.3	59.4	0.7	2.0	3.1	14.0	15.3	17.6	53 0.71	+ 0.16	4.09	7 53 4.96	11.96
	6 Cancri	5	. .	. .	. .	5.4	6.6	8.0	9.3	10.5	21.5	22.8	25.0	55 13.64	— 5.62	4.09	7 55 12.11	— 17.30
	λ Ursæ Minoris, S. P.	6	. .	. .	. .	55.0	2.5	59.0	54.0	4.0	. .	. .	. .	58 58.90	+ 1.68	4.09	19 58 4.67	+ 285.36
	O. Arg. S. 8108 .	7	19.1	21.5	22.8	33.8	34.9	36.3	37.6	38.8	50.0	51.3	53.6	3 36.34	0.17	4.09	8 3 40.60	— 11.81
	O. Arg. S. 8165 .	8	35.6	38.0	39.4	50.5	51.6	53.0	54.3	55.5	6.6	7.9	10.2	4 52.96	+ 0.17	4.09	8 4 57.22	11.84
	O. Arg. S. 8169 .	9	. .	. .	. .	26.3	27.7	30.0	47.5	50.3	51.7	53.3	54.8	5 42.70	— 29.78	4.09	8 5 17.01	11.85
	O. Arg. S. 8280 .	10	13.7	16.0	17.3	28.4	29.5	30.9	32.3	33.6	44.7	46.0	48.4	9 30.98	+ 0.17	4.09	8 9 35.24	11.84
	Lacaille 3257 . .	11	45.5	48.0	49.4	1.1	2.3	3.7	5.2	6.5	18.3	19.7	22.2	13 3.81	0.19	4.09	8 13 8.09	11.39
	Lacaille 3267 . .	12	. .	. .	. .	32.3	33.4	34.9	36.2	37.4	. .	. .	. .	14 34.84	0.25	4.09	8 14 39.18	11.88
	* — 29° 13′ . .	13	40.1	42.4	43.9	54.8	55.8	57.3	58.6	59.8	10.9	12.2	14.5	16 57.30	0.17	4.09	8 17 1.56	12.06
	* — 26° 41′ . .	14	15.3	17.6	19.0	29.7	30.7	32.1	33.4	34.5	45.4	46.7	48.9	20 32.12	0.15	4.09	8 20 36.36	12.35
	O. Arg. S. 8581 .	15	11.7	14.1	15.4	26.1	27.2	28.6	29.9	31.0	42.0	43.2	45.5	22 28.61	0.16	4.08	8 22 32.85	12.34
	O. Arg. S. 8620 .	16	59.2	1.5	3.0	13.9	15.0	16.3	17.8	18.9	30.0	31.4	33.8	24 16.44	0.17	4.08	8 24 20.69	12.10
	* — 23° 41′ . .	17	9.3	11.4	12.7	23.1	24.2	25.5	26.8	27.9	38.4	39.8	42.0	27 25.56	0.14	4.08	8 27 29.78	12.71
	* — 30° 47′ . .	18	24.0	26.3	27.7	38.7	39.9	41.3	42.6	43.8	55.2	56.6	59.0	29 41.37	0.17	4.08	8 29 45.62	12.08
	Lacaille 3419 . .	19	25.6	27.9	29.3	40.3	41.4	42.9	44.2	45.6	56.8	58.0	0.5	30 42.95	0.17	4.08	8 30 47.20	12.10
	O. Arg. S. 8856 .	20	32.0	34.2	35.6	46.4	47.4	48.8	50.0	51.2	2.0	3.3	5.6	34 48.77	0.16	4.08	8 34 53.01	12.51
	Lacaille 3485 . .	21	18.7	21.3	22.7	34.4	35.7	37.1	38.6	39.7	51.7	53.2	55.6	37 37.15	0.19	4.08	8 37 41.42	11.75
	O. Arg. S. 8946 .	22	15.9	18.2	19.5	30.3	31.4	32.7	34.2	35.3	46.0	47.3	49.6	39 32.76	0.16	4.08	8 39 37.00	12.57
	* — 37° 27′ . .	23	10.0	12.7	14.2	26.2	27.4	29.0	30.5	31.7	43.8	45.4	47.9	43 28.98	0.21	4.08	8 43 33.27	11.65
	Lacaille 3582 . .	24	15.9	18.3	19.7	30.9	32.1	33.6	34.9	36.0	47.5	48.7	51.2	48 33.54	0.17	4.08	8 48 37.79	12.30
	O. Arg. S. 9178 .	25	49.6	51.9	53.4	4.3	5.4	6.9	8.2	9.4	20.6	22.0	24.3	51 6.91	0.17	4.08	8 51 11.16	12.46
	Lacaille 3617 . .	26	50.5	52.9	54.2	5.4	6.6	8.0	9.4	10.5	21.9	23.4	25.6	53 8.04	0.17	4.07	8 53 12.28	12.38
	* — 26° 57′ . .	27	56.5	58.8	0.2	10.9	12.0	13.3	14.6	15.8	26.6	28.0	30.2	55 13.35	0.16	4.07	8 55 17.58	12.78
	O. Arg. S. 9310 .	28	22.8	24.9	26.2	37.0	38.0	39.4	40.7	41.7	52.8	53.9	56.2	58 39.42	0.16	4.07	8 58 43.65	12.86
	* — 31° 20′ . .	29	. .	. .	. .	33.0	34.1	35.5	36.9	38.2	. .	. .	. .	1 35.54	0.26	4.07	9 1 39.78	12.52
	* — 31° 28′ . .	30	51.2	53.5	54.9	6.1	7.2	8.7	10.1	11.4	22.5	23.9	26.4	2 8.72	0.20	4.07	9 2 12.99	12.52
	O. Arg. S. 9481 .	31	13.5	15.8	17.2	28.1	29.2	30.5	31.8	33.0	44.3	45.6	47.8	7 30.62	0.19	4.07	9 7 34.88	12.79
	83 Cancri	32	6.0	8.1	9.3	19.3	20.3	21.5	22.8	23.9	34.2	35.4	37.5	11 21.66	0.01	4.07	9 11 25.74	16.04
	O. Arg. S. 9600 .	33	45.6	47.7	49.1	59.7	0.9	2.3	3.5	4.7	15.5	16.9	19.1	14 2.27	0.18	4.07	9 14 6.52	13.04
	O. Arg. S. 9652 .	34	38.6	41.0	42.4	53.4	54.6	56.0	57.3	58.5	9.8	11.0	13.4	16 56.00	+ 0.20	4.07	9 17 0.27	12.87
	O. Arg. S. 9661 .	35	19.3	20.4	21.7	23.1	24.4	. .	56.7	59.6	1.0	2.5	3.9	17 41.26	— 19.18	4.07	9 17 26.15	12.88
	* — 27° 46′ . .	36	24.3	26.5	27.8	38.7	39.7	41.2	42.5	43.6	54.5	55.8	58.1	20 41.15	+ 0.18	4.07	9 20 45.40	13.08
	Lacaille 3864 . .	37	41.6	43.9	45.2	56.0	57.1	58.4	59.7	1.0	11.9	13.3	15.5	23 58.51	+ 0.18	4.06	9 24 2.75	13.14
	* — 27° 35′ . .	38	. .	. .	. .	27.9	29.4	31.6	48.6	51.4	52.7	54.2	55.8	24 43.95	— 29.17	4.06	9 24 18.84	13.14
	Lacaille 3905 . .	39	. .	. .	. .	43.9	45.0	46.5	48.0	49.4	1.8	3.1	5.8	27 52.94	— 6.04	4.06	9 27 50.96	12.46
	Lacaille 3945 . .	40	32.9	35.3	36.7	47.7	48.8	50.2	51.5	52.8	4.0	5.3	7.5	31 50.25	+ 0.20	4.06	9 31 54.51	13.09
	* — 35° 24′ . .	41	9.4	11.8	13.2	25.0	26.1	27.7	29.0	30.3	42.2	43.7	46.1	35 27.68	0.23	4.06	9 35 31.97	12.80
	* — 29° 10′ . .	42	3.4	5.7	7.2	18.0	19.2	20.6	22.0	23.1	34.2	35.5	37.9	37 20.62	0.19	4.06	9 37 24.87	13.24
	Brisbane 2651 . .	43	19.8	22.3	24.0	36.5	37.7	39.4	40.9	42.2	54.8	56.3	59.1	40 39.36	+ 0.26	4.06	9 40 43.68	12.58
	Brisbane 2657 . .	44	18.0	19.6	22.0	. .	. .	. .	42.0	45.1	46.9	48.7	50.2	41 36.56	— 20.74	4.06	9 41 19.88	12.60
	Lacaille 4036 . .	45	. .	. .	. .	41.7	43.0	44.6	46.1	47.4	59.4	0.8	3.5	43 50.81	— 5.94	4.06	9 43 48.93	12.88
	* — 37° 32′ . .	46	36.3	38.8	40.3	52.4	53.6	55.1	56.6	58.0	10.2	11.7	14.2	45 55.20	+ 0.24	4.06	9 45 59.50	12.86
	* — 27° 50′ . .	47	. .	. .	. .	11.7	12.8	14.3	15.6	16.8	27.7	28.9	31.2	48 19.88	— 5.41	4.06	9 48 18.53	13.47
	O. Arg. S. 10227 .	48	39.7	41.8	43.2	54.1	55.2	56.5	57.8	59.0	10.1	11.2	13.5	49 56.56	+ 0.19	4.06	9 50 0.81	13.50
	* — 30° 1′ . . .	59	55.0	57.3	58.7	9.7	10.9	12.3	13.6	14.8	26.0	27.4	29.7	53 12.31	0.20	4.06	9 53 16.57	13.43
	* — 29° 34 . . .	50	38.1	40.0	41.5	52.6	53.6	55.0	56.5	57.8	. .	. .	. .	56 49.39	+ 5.92	+ 4.06	9 56 59.37	— 13.51

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 12, 6.1	+ 4.13	— 0.020	+ 0.070

March 12, 9h. to 11h. n. = — 0.20 s.
11h. to 14h. — 0.26.

March 12, 12h. 0m. Image east 0.14 r. Clamp east.

March 12. Fine night; stars very steady.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 12	* — 29° 33′ . .	1	5. 9	8. 1	9. 5	20. 6	21. 7	23. 1	24. 5	25. 7	36. 8	38. 2	40. 3	57 23. 13	+ 0. 19	+ 4. 06	9 57 27. 38	— 13. 52
Y.	Weisse 209 . . .	2	55. 5	57. 5	58. 8	8. 4	9. 5	10. 9	12. 0	13. 0	22. 9	24. 1	26. 2	13 10. 80	0. 03	4. 05	10 13 14. 88	15. 48
	Weisse 240 . . .	3	38. 7	40. 6	41. 9	51. 6	52. 7	54. 0	55. 0	56. 2	6. 0	7. 2	9. 3	14 53. 93	0. 03	4. 05	10 14 58. 01	15. 47
	Rumker 3171 . .	4	13. 3	15. 4	16. 5	26. 4	27. 3	28. 6	29. 8	30. 9	40. 7	41. 9	44. 0	17 28. 62	+ 0. 03	4. 05	10 17 32. 70	15. 46
	Weisse 316 . . .	5	. .	. .	. .	. .	. .	. .	43. 2	45. 7	47. 0	48. 1	49. 6	19 46. 72	— 34. 28	4. 05	10 19 16. 49	15. 42
	Weisse 375 . . .	6	43. 4	45. 5	46. 7	56. 4	57. 5	58. 7	59. 8	0. 8	10. 8	11. 9	13. 9	21 58. 67	+ 0. 03	4. 04	10 22 2. 74	15. 39
	Lacaille 4363 . .	7	55. 9	58. 0	59. 5	10. 2	11. 4	12. 7	14. 1	15. 3	26. 1	27. 5	29. 8	30 12. 77	0. 19	4. 04	10 30 17. 00	14. 08
	Lacaille 4384 . .	8	24. 8	27. 4	29. 0	41. 3	42. 6	44. 3	45. 7	47. 1	59. 9	1. 3	4. 0	32 44. 31	0. 26	4. 04	10 32 48. 61	13. 75
	O. Arg. S. 10849 .	9	39. 6	41. 8	43. 0	53. 5	54. 5	55. 7	57. 0	58. 2	8. 8	10. 0	12. 3	37 55. 85	0. 16	4. 04	10 38 0. 05	14. 33
	l Leonis	10	49. 7	51. 7	53. 0	2. 7	3. 7	5. 0	6. 3	7. 2	17. 2	18. 3	20. 4	42 5. 02	0. 03	4. 04	10 42 9. 09	15. 34
	O. Arg. S. 10933 .	11	9. 4	11. 5	12. 8	23. 3	24. 3	25. 6	26. 9	28. 0	38. 6	39. 9	42. 1	45 25. 67	0. 16	4. 04	10 45 29. 87	14. 40
	* — 30° 27′ . .	12	29. 0	31. 3	32. 6	43. 7	44. 8	46. 3	47. 7	49. 0	0. 1	1. 4	3. 7	47 46. 33	0. 20	4. 04	10 47 50. 57	14. 29
	* — 35° 46′ . .	13	29. 1	31. 4	33. 2	44. 9	45. 9	47. 5	49. 0	50. 3	2. 2	3. 4	6. 0	52 47. 54	0. 23	4. 03	10 52 51. 80	14. 28
	Lacaille 4567 . .	14	36. 1	38. 8	40. 5	52. 8	54. 0	55. 7	57. 2	58. 5	11. 3	12. 8	15. 6	55 55. 75	0. 26	4. 03	10 56 0. 04	14. 26
	Lacaille 4596 . .	15	2. 0	4. 2	5. 6	16. 6	17. 7	19. 2	20. 5	21. 7	32. 8	34. 1	36. 5	0 19. 17	0. 23	4. 03	11 0 23. 43	14. 50
	O. Arg. S. 11188 .	16	32. 3	34. 6	35. 9	46. 4	47. 5	48. 8	50. 2	51. 3	1. 9	3. 1	5. 4	2 48. 85	0. 20	4. 03	11 2 53. 08	14. 60
	O. Arg. S. 11208 .	17	35. 6	37. 7	39. 0	49. 7	50. 8	52. 0	53. 4	54. 6	5. 2	6. 5	8. 7	3 52. 11	0. 20	4. 03	11 3 56. 34	14. 61
	Lacaille 4638 . .	18	2. 2	4. 4	5. 7	16. 4	17. 4	18. 7	20. 0	21. 2	31. 9	33. 1	35. 4	5 18. 76	0. 20	4. 03	11 5 22. 99	14. 62
	O. Arg. S. 11250 .	19	39. 9	42. 2	43. 4	54. 0	55. 1	56. 3	57. 7	58. 8	9. 5	10. 7	13. 2	7 56. 44	0. 20	4. 03	11 8 0. 67	14. 66
	Crateris	20	15. 7	17. 8	19. 2	29. 0	30. 0	31. 3	32. 5	33. 5	43. 4	44. 7	46. 8	12 31. 26	+ 0. 14	4. 03	11 12 35. 43	14. 79
	Lacaille 4713 . .	21	. .	. .	. .	31. 3	32. 4	33. 9	35. 4	36. 6	48. 4	49. 8	52. 3	14 40. 01	— 5. 77	4. 03	11 14 38. 27	14. 70
	Lacaille 4725 . .	22	. .	8. 7	10. 0	20. 9	22. 0	23. 3	24. 6	25. 8	36. 8	38. 1	. .	16 23. 36	+ 0. 23	4. 03	11 16 27. 62	14. 75
	* — 34° 47′ . .	23	58. 8	1. 3	2. 7	14. 4	15. 5	17. 0	18. 5	19. 8	31. 5	32. 8	35. 4	21 17. 06	0. 27	4. 03	11 21 21. 36	14. 82
	O. Arg. S. 11438 .	24	17. 8	19. 9	21. 3	31. 8	32. 8	34. 2	35. 5	36. 6	47. 3	48. 6	50. 8	23 34. 24	0. 20	4. 02	11 23 38. 46	14. 86
	O. Arg. S. 11444 .	25	57. 7	59. 8	1. 2	11. 8	12. 9	14. 1	15. 4	16. 6	27. 4	28. 6	30. 8	24 14. 21	0. 20	4. 02	11 24 18. 43	14. 87
	* — 40° 23′ . .	26	17. 3	19. 8	21. 5	33. 9	35. 2	36. 8	38. 4	39. 7	52. 4	54. 0	56. 6	27 36. 87	0. 31	4. 02	11 27 41. 20	14. 98
	* — 34° 21′ . .	27	14. 4	16. 7	18. 2	29. 7	30. 9	32. 4	33. 8	35. 2	46. 7	48. 1	50. 6	30 32. 43	0. 26	4. 02	11 30 36. 71	14. 98
	O. Arg. S. 11557 .	28	56. 0	58. 4	59. 7	10. 6	11. 8	13. 2	14. 5	15. 8	26. 9	28. 3	30. 5	33 13. 25	0. 23	4. 02	11 33 17. 50	15. 00
	Weisse 646 . . .	29	4. 3	5. 7	6. 9	8. 0	10. 5	. .	. .	. .	. .	. .	. .	37 7. 08	33. 53	4. 02	11 37 44. 63	14. 99
	Iris	30	46. 6	48. 7	49. 9	59. 5	0. 4	1. 6	2. 9	3. 9	13. 7	14. 8	16. 9	38 1. 72	0. 10	4. 02	11 38 5. 84	14. 99
	Weisse 674 . . .	31	57. 0	58. 7	0. 0	9. 8	10. 7	11. 9	13. 0	14. 1	23. 9	25. 0	27. 2	39 11. 94	+ 0. 10	4. 02	11 39 16. 06	14. 99
	β Leonis	†32	50. 4	52. 6	53. 8	3. 6	4. 7	6. 0	7. 2	8. 3	18. 3	19. 5	21. 6	42 6. 00	0. 00	4. 02	11 42 10. 02	14. 95
	Saturn I . . .	33	49. 9	51. 2	52. 4	53. 5	55. 7	. .	56. 1	58. 5	59. 7	0. 9	2. 3	4 26. 02	— 0. 13	3. 99	13 4 29. 86	. .
	Saturn II . . .	34	11. 9	13. 9	15. 4	24. 7	25. 8	26. 9	28. 0	29. 1	38. 7	40. 0	42. 0	4 26. 95	+ 0. 09	3. 99	13 4 31. 03	. .
	Polaris, S. P. . .	35	. .	. .	. .	13. 0	34. 0	46. 0	55. 0	13. 0	. .	. .	. .	8 44. 20	5. 78	3. 99	13 8 53. 97	112. 62
	α Virginis	36	45. 2	47. 3	48. 6	58. 3	59. 3	0. 6	1. 7	2. 7	12. 6	13. 7	15. 8	18 0. 53	0. 12	3. 99	13 18 4. 64	15. 31
13	Moon I	37	51. 5	53. 7	54. 9	5. 3	6. 3	7. 6	9. 0	10. 2	20. 7	21. 9	24. 2	26 7. 75	+ 0. 04	3. 36	4 26 11. 15	. .
R.	α Tauri	38	. .	. .	. .	2. 7	3. 8	5. 0	6. 4	7. 4	17. 4	18. 6	20. 8	28 10. 26	— 5. 12	3. 35	4 28 8. 49	15. 05
	β Orionis	39	42. 9	45. 0	46. 1	55. 7	56. 7	57. 9	59. 2	0. 2	9. 9	11. 0	13. 0	7 57. 96	+ 0. 09	3. 34	5 8 1. 39	12. 74
	ε Pegasi	40	51. 3	52. 7	53. 8	55. 0	57. 4	12. 4	14. 5	15. 7	. .	. .	. .	37 1. 60	+ 26. 08	2. 98	21 37 30. 66	12. 10
	Venus II . . .	†41	6. 3	8. 4	9. 6	. .	. .	. .	53. 3	55. 6	57. 0	58. 2	59. 6	38 38. 50	— 16. 58	2. 98	21 38 24. 90	0. 44
14	Sun I	42	. .	9. 0	10. 1	20. 2	21. 1	22. 3	23. 5	24. 5	34. 1	35. 3	. .	38 22. 23	+ 0. 09	2. 93	23 38 25. 25	. .
	Sun II	†43	16. 6	18. 5	19. 8	29. 4	30. 5	31. 6	32. 8	33. 8	43. 5	44. 7	46. 7	40 31. 63	0. 08	2. 93	23 40 34. 64	. .
	α Andromedæ . .	44	2. 4	4. 5	6. 0	16. 7	17. 7	19. 3	20. 5	21. 7	32. 8	34. 1	36. 5	1 19. 29	+ 0. 03	2. 83	0 1 22. 15	12. 61
	β Arietis	†45	. .	. .	. .	. .	. .	. .	. .	. .	18. 1	19. 5	21. 6	47 19. 73	— 14. 12	2. 89	1 47 8. 50	13. 76
Y.	β Orionis	46	43. 2	45. 4	46. 6	56. 1	57. 1	58. 4	59. 6	0. 6	10. 3	11. 5	13. 5	7 58. 39	+ 0. 09	. .	. . . .	12. 73
R.	Moon I	47	22. 8	25. 0	26. 3	36. 7	37. 8	39. 0	40. 4	41. 5	52. 0	53. 3	55. 5	21 39. 12	0. 04	2. 81	5 21 41. 97	. .
15	η Geminorum . . .	48	23. 2	25. 4	26. 7	52. 3	53. 6	55. 6	12. 1	14. 9	16. 2	17. 5	19. 0	6 56. 05	— 16. 56	2. 43	6 6 41. 92	— 16. 41
Y.	δ Ursæ Minoris, S. P.	49	. .	. .	. .	. .	. .	. .	. .	. .	. .	17. 5	43. 0	12 0. 25	+ 3 57. 75	2. 43	8 16 0. 43	+ 89. 61
	Moon I	50	20. 4	22. 7	23. 9	34. 4	35. 4	36. 7	38. 0	39. 0	49. 6	50. 9	53. 1	15 36. 74	+ 0. 02	+ 2. 42	6 15 39. 18	. .

32. Ends cloudy.
41. Cloudy and unsteady.
43. Both limbs unsteady.
45. Cloudy.

		s.
March 13–14, . . .	n. =	— 0. 10.
14–15, . . .		— 0. 14.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 14, 14. 2	+ 3. 14	— 0. 022	+ 0. 070
15, 7. 5	2. 39	0. 029	
21. 6	+ 1. 95	— 0. 031	

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. Mar. 15	ε Geminorum . . .	1	17. 0	19. 2	20. 5	31. 0	32. 1	33. 4	34. 7	35. 9	46. 6	47. 9	50. 1	35 33. 49	+ 0. 01	+ 2. 42	6 35 35. 92	—16. 87
Y.	α Canis Majoris . .	2	52. 8	54. 8	56. 0	6. 0	7. 1	8. 3	9. 5	10. 6	20. 8	22. 0	24. 0	39 8. 35	+ 0. 12	2. 41	6 39 10. 88	12. 19
	B. A. C. 2251 . .	3	31. 7	33. 4	34. 7	36. 0	38. 8	. .	49. 3	52. 0	53. 5	55. 0	56. 6	45 14. 10	— 0. 11	2. 41	6 45 16. 40	10. 61
	* — 31° 33′ . .	4	59. 3	1. 6	3. 2	14. 3	15. 3	16. 8	18. 2	19. 2	30. 8	32. 1	34. 5	45 16. 87	+ 0. 17	2. 41	6 45 19. 45	10. 61
	Lacaille 2519 . .	5	53. 1	55. 5	56. 9	8. 1	9. 3	10. 6	12. 0	13. 3	24. 6	25. 9	28. 3	49 10. 69	0. 17	2. 41	6 49 13. 27	10. 64
	Lacaille 2549 . .	6	36. 7	38. 9	40. 3	51. 4	52. 7	54. 0	55. 3	56. 6	7. 9	9. 3	11. 6	52 54. 06	+ 0. 16	2. 41	6 52 56. 63	10. 82
	Lacaille 2553 . .	7	. .	. .	. .	44. 2	45. 6	47. 9	5. 6	8. 4	9. 8	11. 3	12. 9	54 0. 71	— 30. 14	2. 41	6 53 32. 98	10. 79
	Lacaille 2579 . .	8	. .	. .	. .	53. 1	54. 3	55. 7	57. 0	58. 2	9. 4	10. 8	13. 2	56 1. 46	— 5. 59	2. 41	6 55 58. 28	10. 86
	Lacaille 2610 . .	†9	3. 3	4. 7	6. 2	7. 6	10. 1	. .	42. 3	43. 5	44. 9	46. 2	47. 4	0 25. 62	+ 19. 43	2. 40	7 0 47. 45	10. 92
	δ Geminorum . . .	10	43. 6	45. 7	47. 0	57. 3	58. 4	59. 7	0. 9	2. 0	12. 5	13. 8	15. 9	11 59. 71	0. 02	2. 40	7 12 2. 13	16. 57
	* + 10° 25′ . .	11	. .	23. 2	24. 4	34. 2	35. 2	36. 4	37. 7	38. 6	48. 4	49. 6	. .	17 36. 41	0. 06	2. 40	7 17 38. 87	15. 31
	α Canis Minoris . .	12	55. 5	57. 6	58. 8	8. 5	9. 4	10. 6	11. 7	12. 7	22. 4	23. 6	25. 6	32 10. 58	+ 0. 06	2. 39	7 32 13. 03	13. 68
	β Geminorum . . .	13	42. 6	44. 8	46. 0	57. 0	58. 0	. .	0. 7	1. 9	12. 8	14. 3	16. 6	36 59. 47	— 0. 01	2. 39	7 37 1. 85	— 17. 14
	λ Ursæ Minoris, S. P.	†14	. .	23. 0	15. 5	. .	. .	. .	. .	. .	. .	48. 5	46. 5	59 3. 37	+ 5. 33	2. 38	7 59 11. 08	+ 282. 79
	η Cancri	†15	34. 6	36. 6	38. 0	48. 2	49. 1	50. 3	51. 6	52. 8	3. 0	4. 3	6. 4	24 50. 45	+ 0. 02	2. 36	8 24 52. 83	— 16. 40
	α Cygni	16	24. 8	27. 5	29. 2	42. 9	44. 1	45. 8	47. 4	49. 0	2. 5	4. 2	7. 1	36 45. 86	— 0. 04	2. 01	20 36 47. 83	8. 16
	ζ Cygni	17	49. 8	52. 1	53. 6	4. 5	5. 7	7. 0	8. 5	9. 6	20. 6	22. 1	24. 5	7 7. 08	0. 00	2. 00	21 7 9. 08	10. 45
R.	β Cephei	18	6. 4	11. 7	15. 7	43. 6	46. 4	49. 8	53. 0	56. 0	24. 4	27. 8	33. 6	26 49. 85	— 0. 18	1. 95	21 26 51. 62	1. 33
	ε Pegasi	19	13. 6	15. 7	17. 0	26. 5	27. 6	28. 7	30. 0	31. 1	40. 7	41. 9	44. 0	37 28. 80	+ 0. 05	1. 95	. . . .	12. 20
16	Sun I	†20	26. 8	28. 9	30. 0	39. 8	40. 7	41. 9	43. 1	44. 0	53. 6	55. 0	57. 0	45 41. 89	0. 07	1. 88	23 45 43. 84	. .
	Sun II	†21	35. 9	37. 9	39. 1	48. 8	49. 7	50. 9	52. 0	53. 0	3. 0	4. 1	6. 0	47 50. 95	0. 07	1. 88	23 47 52. 90	. .
17	Sun I	22	6. 4	8. 3	9. 6	19. 2	20. 1	21. 2	22. 3	23. 3	33. 2	34. 3	36. 4	49 21. 30	0. 08	1. 24	23 49 22. 62	. .
Y.	Sun II	23	15. 4	17. 3	18. 7	28. 2	29. 3	30. 4	31. 6	32. 7	42. 2	43. 5	45. 5	51 30. 44	0. 08	1. 24	23 51 31. 76	. .
	β Arietis	24	51. 3	53. 4	54. 7	4. 8	5. 8	7. 1	8. 4	9. 6	19. 8	21. 0	23. 3	47 7. 20	0. 10	1. 21	1 47 8. 51	13. 75
	α Arietis	†25	13. 6	16. 0	17. 3	27. 6	28. 8	30. 0	31. 3	32. 4	42. 9	44. 1	46. 5	59 30. 05	+ 0. 11	1. 20	1 59 31. 36	14. 08
	* + 10° 25′ . .	26	35. 3	36. 3	37. 6	38. 8	39. 8	. .	8. 3	10. 6	11. 9	13. 2	14. 5	17 54. 63	— 17. 01	1. 12	7 17 38. 74	15. 28
	O. Arg. S. 6810 .	27	16. 5	18. 7	20. 1	30. 7	31. 8	33. 2	34. 6	35. 7	46. 4	47. 7	50. 0	20 33. 22	+ 0. 11	1. 12	7 20 34. 45	11. 57
	Lacaille 2813 . .	28	12. 8	15. 0	16. 4	27. 0	28. 1	29. 5	30. 8	32. 0	42. 8	44. 2	46. 3	22 29. 54	0. 11	1. 12	7 22 30. 77	11. 59
	68 Geminorum . . .	29	36. 0	37. 9	39. 3	49. 2	50. 2	51. 6	52. 7	53. 8	3. 9	5. 0	7. 1	25 51. 52	+ 0. 07	1. 12	7 25 52. 71	15. 89
	Lacaille 2852 . .	30	. .	. .	. .	. .	. .	. .	53. 8	56. 6	58. 1	59. 6	1. 3	28 57. 88	— 40. 04	1. 12	7 28 18. 96	10. 86
	Lacaille 2859 . .	31	. .	. .	. .	20. 1	21. 5	23. 9	42. 1	45. 0	46. 3	48. 0	49. 4	29 37. 04	— 30. 95	1. 12	7 29 7. 21	10. 87
	α Canis Minoris . .	32	56. 9	58. 8	59. 9	9. 4	10. 4	11. 7	12. 9	13. 9	23. 6	24. 8	26. 8	32 11. 74	+ 0. 08	1. 12	7 32 12. 94	14. 65
	β Geminorum . . .	33	43. 7	45. 9	47. 3	58. 2	59. 3	0. 6	2. 0	3. 1	14. 1	15. 4	17. 7	37 0. 66	+ 0. 06	1. 12	7 37 1. 84	17. 10
	B. A. C. 2581 . .	34	28. 7	29. 9	31. 3	32. 7	34. 0	. .	7. 8	10. 7	12. 2	13. 7	15. 4	40 51. 64	— 20. 12	1. 12	7 40 32. 64	10. 92
	O. Arg. S. 7465 .	35	. .	. .	. .	58. 2	59. 2	0. 6	1. 9	3. 0	. .	. .	. .	43 0. 58	+ 0. 16	1. 12	7 43 1. 86	11. 81
	O. Arg. S. 7464 .	36	. .	. .	. .	12 1	13. 5	15. 7	32. 7	35. 3	36. 7	38. 3	39. 6	43 27. 99	— 29. 00	1. 12	7 43 0. 11	11. 81
	* — 26° 2′ . . .	37	. .	. .	. .	40. 3	41. 4	42. 7	43. 9	45. 2	. .	. .	. .	46 42. 70	+ 0. 16	1. 12	7 46 43. 98	11. 92
	* — 26° 2′ . . .	38	10. 3	12. 5	13. 9	24. 5	25. 5	26. 8	28. 2	29. 4	40. 1	41. 3	43. 7	47 26. 93	0. 11	1. 12	7 47 28. 16	11. 93
	* — 25° 58′ . .	39	3. 9	6. 1	7. 5	18. 0	19. 1	20. 6	21. 8	22. 9	. .	. .	. .	48 14. 99	+ 5. 66	1. 11	7 48 21. 76	11. 94
	Lacaille 3041 . .	40	. .	. .	. .	. .	. .	. .	44. 6	47. 4	48. 6	50. 2	51. 5	48 48. 46	— 37. 31	1. 11	7 48 12. 26	11. 95
	* — 25° 49′ . .	41	. .	. .	. .	. .	. .	. .	5. 4	8. 2	9. 6	11. 1	12. 5	49 9. 36	— 37. 27	1. 11	7 48 33. 20	11. 96
	* — 28° 3′ . . .	42	41. 3	43. 5	44. 9	55. 6	56. 8	58. 1	59. 5	0 6	11. 7	13. 0	15. 4	53 58. 22	+ 0. 12	1. 11	7 53 59. 45	11. 79
		43																
	Moon I		45. 0	47. 1	48. 5	58. 5	59. 6	0. 7	2. 0	3. 1	13. 3	14. 6	16. 8	58 0. 84	+ 0. 07	1. 11	7 58 2. 02	. .
	O. Arg. S. 7951 .	44	. .	. .	. .	. .	. .	. .	7. 4	10. 0	11. 5	12. 9	14. 5	0 11. 26	— 38. 56	1. 11	7 59 33. 81	11. 70
	ζ Cancri (1st *) . .	45	10. 0	12. 1	13. 3	23. 3	24. 4	25. 7	27. 0	28. 0	38. 2	39. 5	41. 6	4 25. 74	+ 0. 07	1. 11	8 4 26. 92	16. 13
	ζ Cancri (2d *) . .	46	48. 2	49. 6	50. 9	52. 1	54. 5	. .	57. 8	0. 3	1. 6	2. 9	4. 3	4 26. 22	— 0. 18	1. 11	8 4 27. 15	16. 13
	Lacaille 3316 . .	47	18. 4	20. 9	22. 1	33. 5	34. 6	36. 0	37. 4	38. 7	50. 0	51. 3	53. 5	20 36. 04	+ 0. 12	1. 11	8 20 37. 27	11. 77
	η Cancri	†48	35. 7	37. 8	39. 1	49. 3	50. 4	51. 7	52. 9	54. 0	4. 4	5. 6	7. 8	24 51. 70	0. 07	1. 11	8 24 52. 88	16. 37
R.	ζ Cygni	49	51. 2	53. 5	55. 0	5. 8	7. 0	8. 3	9. 8	11. 0	22. 0	23. 4	25. 8	7 8. 44	+ 0. 11	+ 0. 74	. . . .	— 10. 50

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 17, 5. 5	+ 1. 15	— 0. 015	+ 0. 080
23. 6	+ 0. 61	— 0. 029	. .

9. Through clouds.
14. Cloudy.
15. Through clouds.
20–21. Through clouds.
25. Unsteady.
48. Through thin clouds.

March 17, 23h. to 2h. n. = + 0. 05 s.
7h. to 9h. — 0. 05.

March 17, 9h. 15m. Image east 0. 10 r. Clamp east.
Image west 0. 21. Clamp west.
Image east 0. 10. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. Mar. 17	β Cephei	1	6. 8	13. 0	16. 4	44. 0	47. 0	50. 5	53. 9	57. 0	24. 8	28. 6	34. 8	26 50. 62	+ 0. 34	+ 0. 67	21 26 51. 73	— 1. 41
R.	ε Pegasi	2	15. 0	16. 8	18. 3	27. 8	28. 8	29. 9	31. 1	32. 2	42. 0	43. 1	45. 1	37 30. 01	0. 09	0. 67	21 37 30. 77	12. 23
	Venus II	3	20. 0	22. 1	23. 3	33. 1	34. 2	35. 4	36. 6	37. 6	47. 6	48. 8	50. 9	58 35. 42	0. 07	0. 66	21 58 36. 15	0. 43
	Mercury II	4	11. 7	13. 6	15. 0	24. 5	25. 6	26. 8	28. 0	29. 0	38. 8	40. 0	42. 1	3 26. 83	0. 08	0. 62	23 3 27. 53	0. 18
18	Sun I	5	45. 8	47. 7	49. 0	58. 6	59. 6	0. 7	1. 9	2. 9	12. 6	13. 8	15. 7	53 0. 75	0. 08	0. 60	23 53 1. 43	..
	Sun II	6	54. 7	56. 6	58. 0	7. 4	8. 4	9. 7	10. 9	12. 0	21. 6	22. 7	24. 6	55 9. 69	0. 08	0. 60	23 55 10. 37	..
	Polaris	†7	42. 0	1. 0	52. 0	16. 0	58. 0	50. 0	34. 0	17. 0	..	..	..	5 26. 25	3 26. 91	0. 57	....	50. 52
	β Arietis	8	51. 9	54. 0	55. 4	5. 5	6. 6	7. 8	9. 0	10. 3	20. 5	21. 7	23. 9	47 7. 87	0. 10	0. 55	1 47 8. 52	13. 75
	α Arietis	9	14. 6	16. 7	17. 9	28. 3	29. 3	30. 7	31. 8	33. 0	43. 5	44. 8	47. 0	59 30. 69	0. 10	0. 54	1 59 31. 33	14. 07
Y.	ζ Cygni	10	51. 8	54. 1	55. 5	6. 4	7. 6	9. 0	10. 4	11. 5	22. 6	23. 9	26. 3	7 9. 01	0. 11	0. 13	....	10. 52
	Venus II	†11	5. 8	7. 8	9. 1	18. 9	19. 8	21. 2	22. 4	23. 5	33. 4	34. 6	36. 7	2 21. 20	0. 07	0. 12	22 2 21. 39	0. 43
19	Sun II	†12	33. 4	35. 3	36. 8	46. 4	47. 5	48. 6	49. 7	50. 8	0. 3	1. 5	3. 4	58 48. 52	0. 08	0. 08	23 58 48. 68	64. 48
	α Tauri	†13	30. 9	32. 2	33. 5	34. 8	37. 2	52. 7	54. 9	56. 0	20. 6	21. 8	23. 9	28 52. 59	15. 78	0. 01	....	14. 94
20	γ Leonis	†14	45. 9	47. 9	49. 1	59. 3	0. 4	1. 6	3. 0	4. 1	14. 3	15. 6	17. 7	12 1. 72	0. 04	29. 13	10 12 30. 89	15. 95
R.	Moon I	†15	47. 9	49. 9	51. 1	0. 7	1. 9	3. 2	4. 5	5. 5	15. 4	16. 5	18. 4	20 3. 18	0. 07	29. 13	10 20 32. 38	..
	30 Sextantis	†16	17. 7	19. 0	20. 3	21. 4	23. 8	..	51. 5	52. 5	53. 7	54. 9	56. 1	22 37. 09	16. 69	29. 13	10 23 22. 91	14. 93
	ρ Leonis	17	57. 0	59. 3	0. 4	10. 0	11. 2	12. 3	13. 5	14. 5	24. 3	25. 4	27. 6	25 12. 32	0. 06	29. 13	10 25 41. 51	15. 32
	36 Sextantis	†18	27. 5	29. 4	30. 6	..	..	..	..	..	54. 3	55. 5	57. 4	37 42. 45	0. 03	29. 13	10 38 11. 61	15. 06
	l Leonis	19	28. 4	26. 7	28. 0	37. 6	38. 7	40. 0	41. 1	42. 2	52. 0	53. 2	55. 2	41 39. 95	0. 06	29. 14	10 42 9. 15	15. 32
21	Sun I	20	11. 8	13. 7	15. 0	24. 2	25. 5	26. 8	27. 9	29. 0	38. 7	40. 0	41. 9	3 26. 77	0. 08	29. 45	0 3 56. 30	..
	Sun II	†21	21. 1	22. 9	23. 9	33. 5	34. 6	35. 9	37. 1	38. 2	47. 9	48. 9	50. 9	5 35. 90	0. 08	29. 45	0 6 5. 43	..
	* — 27° 45′	22	12. 6	14. 8	16. 2	27. 0	28. 0	29. 2	30. 6	31. 8	42. 8	44. 1	46. 1	43 29. 38	+ 0. 15	29. 71	8 43 59. 24	12. 64
	Lacaille 3567	23	..	..	..	56. 4	57. 7	0. 1	17. 0	19. 8	21. 0	22. 6	24. 0	46 12. 32	— 29. 09	29. 71	8 46 12. 94	12. 70
	* — 37° 45′	24	18. 2	20. 4	22. 0	34. 2	35. 3	36. 8	38. 6	39. 8	51. 9	53. 4	55. 8	49 36. 94	+ 0. 19	29. 71	8 50 6. 84	11. 59
	Lacaille 3621	25	9. 1	11. 2	12. 5	23. 3	24. 3	25. 7	26. 9	28. 1	39. 0	40. 3	42. 7	53 25. 74	0. 14	29. 71	8 53 55. 59	12. 62
	κ Cancri	26	40. 3	42. 1	43. 4	53. 1	54. 1	55. 3	56. 6	57. 9	7. 5	8. 6	10. 5	59 55. 40	+ 0. 06	29. 70	9 0 25. 16	15. 46
	O. Arg. S. 9489	27	46. 4	48. 0	49. 3	50. 6	53. 3	..	0. 8	3. 6	5. 0	6. 5	8. 0	7 27. 15	— 0. 12	29. 70	9 7 56. 73	12. 80
	O. Arg. S. 9496	28	30. 5	32. 9	34. 2	44. 9	46. 0	47. 4	48. 8	50. 0	..	..	..	7 41. 84	+ 5. 77	29. 70	9 8 17. 31	12. 80
	* — 27° 41′	29	15. 6	17. 7	19. 1	29. 9	31. 0	32. 4	33. 8	35. 0	45. 8	47. 3	49. 5	9 32. 46	0. 15	29. 70	9 10 2. 31	12. 82
	B. A. C. 3207	30	34. 9	37. 2	38. 6	49. 2	50. 5	51. 8	53. 3	54. 3	5. 1	6. 4	8. 9	16 51. 84	0. 15	29. 69	9 17 21. 68	12. 85
	α Hydræ	31	11. 7	13. 6	14. 9	24. 7	25. 6	26. 8	27. 9	29. 0	38. 9	40. 0	42. 0	20 26. 83	0. 10	29. 69	9 20 56. 62	14. 24
	Lacaille 3889	32	7. 0	9. 4	11. 0	22. 7	23. 8	25. 4	26. 9	28. 0	40. 0	41. 2	43. 7	25 25. 37	+ 0. 18	29. 69	9 25 55. 24	12. 53
	O. Arg. S. 9903	33	..	..	..	..	..	..	7. 9	10. 4	11. 8	13. 0	14. 4	30 11. 50	— 35. 77	29. 69	9 30 5. 42	13. 58
	* — 20° 24′	34	..	..	..	44. 6	45. 7	46. 9	48. 2	49. 3	59. 5	0. 7	2. 7	31 52. 20	— 5. 16	29. 69	9 32 16. 73	13. 60
	ε Leonis	35	24. 0	26. 2	27. 4	37. 9	39. 0	40. 5	41. 6	42. 7	53. 7	54. 8	57. 1	37 40. 44	+ 0. 04	29. 68	9 37 10. 16	16. 35
	* — 37° 32′	36	9. 6	12. 3	13. 7	..	..	..	..	..	43. 6	45. 2	47. 7	41 28. 68	+ 0. 14	29. 68	9 41 58. 50	12. 66
	μ Leonis	37	..	..	..	..	..	..	8. 2	10. 9	12. 2	13. 7	15. 3	45 12. 06	— 37. 62	29. 68	9 45 4. 12	16. 39
	* — 37° 46′	38	..	..	..	11. 5	13. 0	14. 6	16. 0	17. 2	29. 3	30. 8	33. 7	47 20. 76	— 6. 08	29. 68	9 47 44. 36	12. 79
	30 Sextantis	39	38. 4	40. 3	41. 4	50. 9	51. 8	53. 2	54. 4	55. 4	5. 0	6. 1	8. 4	22 53. 21	+ 0. 08	29. 66	10 23 22. 95	14. 93
	ρ Leonis	40	56. 7	58. 7	59. 8	9. 4	10. 6	11. 8	12. 9	14. 0	23. 7	25. 1	27. 0	25 11. 79	0. 06	29. 66	10 25 41. 51	15. 32
	Lacaille 4387	41	21. 4	24. 0	25. 4	37. 1	38. 5	39. 9	41. 3	42. 6	54. 6	56. 0	58. 4	32 39. 93	0. 18	29. 66	10 33 9. 77	13. 84
	36 Sextantis	42	27. 0	28. 9	30. 2	39. 8	40. 7	41. 8	43. 1	44. 2	53. 7	54. 9	57. 0	37 41. 94	0. 07	29. 65	10 38 11. 66	15. 06
	χ Leonis	43	18. 0	19. 8	21. 1	30. 9	31. 9	33. 1	34. 1	35. 4	45. 0	46. 1	48. 4	57 33. 07	+ 0. 07	29. 64	10 58 2. 78	15. 09
	Lacaille 4609	44	..	..	..	12. 9	14. 1	15. 5	16. 8	18. 1	29. 2	30. 5	32. 9	1 21. 25	— 5. 53	29. 64	11 1 45. 36	14. 52
	Moon I	45	13. 4	15. 4	16. 9	26. 6	27. 6	28. 7	29. 9	31. 0	40. 5	41. 9	44. 0	6 28. 72	+ 0. 08	29. 64	11 6 58. 44	..
	φ Leonis	46	2. 7	4. 8	6. 1	15. 7	16. 7	17. 8	19. 0	20. 1	29. 5	30. 9	32. 9	9 17. 84	0. 09	29. 64	11 9 47. 57	14. 97
	Iris	†47	36. 8	38. 3	39. 4	40. 6	42. 9	..	..	..	..	..	..	28 39. 60	33. 45	29. 63	11 29 42. 68	..
	γ Cephei, S. P.	48	21. 0	12. 1	7. 1	25. 2	20. 0	15. 5	10. 1	4. 9	22. 4	16. 6	8. 9	33 14. 89	0. 12	29. 63	....	6. 79
	β Leonis	49	24. 9	27. 2	28. 3	38. 0	39. 0	40. 1	41. 4	42. 5	52. 7	53. 7	55. 9	41 40. 34	+ 0. 05	+ 29. 62	11 42 10. 01	— 14. 99

7. Wind violent; star very unsteady.
11. Very unsteady.
12. Unsteady.
13. Faint; through clouds.
14. Through clouds.
15–16. Through clouds.
18. Faint; through clouds.
21. Cloudy; both limbs badly defined.
47. Faint; too near the moon.

March 17–18, 21h. to 2h. n. = + 0.04 s.
18–19, 21h. to 4h. + 0.04.
20–21, — 0.11.
March 21. Stars unsteady and faint through haze.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 18, 0.8	+ 0.07	— 0.017	+ 0.080
20, 10.4	29.13	+ 0.023	..
21, 10.1	+ 29.67	— 0.030	+ 0.080

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 23	Sun I	1	26.8	28.8	30.1	39.7	40.6	42.0	43.1	44.1	53.7	54.9	56.8	10 41.87	+ 0.08	+30.88	0 11 12.83	. .
R.	Sun II	2	35.5	37.6	38.9	48.4	49.4	50.6	51.8	52.9	2.5	3.7	5.7	12 50.64	0.08	30.88	0 13 21.60	. .
	Polaris	3	. .	. .	. .	49.0	29.0	20.0	5.0	49.0	. .	. .	. .	8 18.40	2.34	30.90	. . . .	— 49.53
	α Arietis	4	44.1	46.3	47.6	58.0	59.0	0.3	1.6	2.8	13.2	14.4	16.7	59 0.36	0.06	30.92	. . . .	14.04
	α Tauri	5	21.7	23.8	25.2	35.0	36.0	37.2	38.5	39.6	49.6	50.8	53.0	27 37.31	0.06	. .	. . . .	14.88
	δ Leonis	6	7.3	9.7	11.0	21.7	22.6	23.8	25.0	26.5	36.6	38.0	40.2	6 23.85	0.04	31.11	11 6 55.00	15.56
	Lacaille 4693 . .	7	9.7	12.0	13.6	23.8	24.9	26.3	27.5	28.5	39.1	40.3	42.4	11 26.19	0.14	31.11	11 11 57.44	14.73
	O. Arg. S. 11344 .	8	6.9	9.2	10.4	20.6	21.7	23.0	24.2	25.5	35.8	37.2	39.5	15 23.09	0.14	31.11	11 15 54.34	14.78
	O. Arg. S. 11353 .	9	49.9	52.0	53.3	3.6	4.7	6.0	7.5	8.5	19.0	20.2	22.4	16 6.10	0.14	31.11	11 16 37.35	14.79
	O. Arg. S. 11394 .	10	50.9	53.5	54.7	4.9	5.9	7.2	8.5	9.6	20.2	21.5	23.6	20 7.31	0.14	31.12	11 20 38.57	14.84
	O. Arg. S. 11410 .	11	53.1	54.9	56.6	6.9	7.9	9.3	10.5	11.7	22.2	23.5	25.6	21 9.29	0.14	31.12	11 21 40.55	14.85
	Weisse 450 . . .	12	59.3	1.3	2.5	12.3	13.2	14.4	15.6	16.5	26.1	27.3	29.4	26 14.35	+ 0.09	31.12	11 26 45.56	14.99
	* — 5° 45′ . . .	13	. .	. .	. .	47.9	49.0	50.3	51.5	52.5	2.3	3.4	5.1	27 55.25	— 4.89	31.12	11 28 21.48	14.99
	* — 27° 44′ . .	14	43.2	45.8	47.6	58.0	59.1	0.6	2.1	3.1	14.0	15.5	17.8	33 0.62	+ 0.16	31.12	11 33 31.90	15.02
	Lacaille 4890 . .	15	42.6	45.0	46.2	57.2	58.3	59.9	1.3	2.5	13.4	15.0	17.1	39 59.86	0.17	31.12	11 40 31.15	15.14
	13 Virginis	16	58.7	0.5	1.8	11.3	12.3	13.6	14.8	15.8	25.4	26.5	28.5	11 13.56	0.08	31.13	12 11 44.77	15.06
	η Virginis	17	13.4	15.5	16.8	26.2	27.1	28.2	29.6	30.5	40.3	41.5	43.5	12 28.42	0.08	31.14	12 12 59.64	15.05
	Lacaille 5143 . .	18	25.1	27.4	28.5	39.2	40.3	41.5	42.9	43.9	54.5	55.9	58.4	17 41.60	0.15	31.14	12 18 12.89	15.58
	* — 29° 17′ . .	19	53.9	56.1	57.6	8.4	9.6	11.1	12.4	13.6	24.8	26.0	28.3	36 11.07	+ 0.16	31.14	12 26 42.37	— 15.83
	Saturn I	20	. .	. .	. .	18.2	19.6	21.3	36.6	39.1	40.2	41.5	43.0	1 32.44	— 25.98	31.15	13 1 37.61	+ 0.60
	Polaris, S. P. . .	†21	. .	. .	. .	49.0	7.0	24.0	28.0	49.0	. .	. .	. .	8 19.40	+ 0.10	31.15	. . . .	. .
	α Virginis	22	18.5	20.4	21.5	31.4	32.4	33.6	34.9	35.8	45.6	46.9	49.0	17 33.64	0.10	31.16	13 18 4.90	— 15.46
Y.	ζ Cygni	23	20.5	22.9	24.3	35.2	36.5	37.9	39.1	40.4	51.5	52.8	55.1	6 37.84	0.08	31.52	21 6 9.44	10.64
	β Cephei	†24	36.6	42.4	46.4	13.9	16.6	20.3	23.5	26.9	54.9	58.2	4.2	26 20.35	0.18	31.52	21 26 52.05	1.69
	ε Pegasi	25	44.0	46.3	47.5	57.0	58.0	59.3	0.5	1.5	11.3	12.5	14.5	36 59.31	+ 0.08	31.52	21 37 30.91	12.35
	Venus II . . .	26	. .	. .	. .	. .	. .	. .	55.2	57.6	59.0	0.2	1.7	25 58.74	— 34.29	31.53	22 25 55.98	0.42
	α Pegasi	27	26.6	27.7	28.9	30.2	31.3	. .	0.1	2.6	3.9	5.1	6.6	57 46.30	17.27	31.54	22 58 0.57	12.30
	Mercury I . . .	28	10.7	12.7	13.9	. .	. .	. .	. .	. .	37.5	38.7	40.6	42 25.68	+ 0.04	31.55	23 42 57.27	. .
	Mercury II . . .	29	. .	. .	. .	23.6	24.8	26.1	27.3	28.3	. .	. .	. .	42 26.02	+ 0.13	31.55	23 42 57.70	. .
	Mercury (centre) .	30	49.8	51.2	52.5	53.7	55.8	56.2	56.2	58.8	59.9	1.1	2.5	42 26.15	— 0.16	31.55	23 42 57.54	. .
24	Sun I	31	3.9	5.9	7.2	16.8	17.7	18.8	20.0	21.0	30.8	32.0	34.0	14 18.92	+ 0.08	31.56	0 14 50.56	. .
	Sun II	32	12.7	14.7	16.0	25.6	26.6	27.7	28.8	29.8	39.7	40.8	42.9	16 27.75	0.08	31.56	0 16 59.39	. .
	Polaris	33	. .	. .	. .	44.0	22.5	12.0	1.0	43.0	. .	. .	. .	8 12.50	6.80	31.57	. . . .	109.38
	β Arietis	34	20.8	22.9	24.4	34.4	35.5	36.8	38.0	39.1	49.4	50.7	52.8	46 36.80	0.10	31.58	1 47 8.48	54.71
	α Arietis	†35	43.5	45.6	46.9	57.3	58.3	59.5	0.8	1.9	12.4	13.7	15.9	58 59.62	0.10	31.58	1 58 31.30	14.03
	χ Leonis	36	15.5	17.5	18.7	28.3	29.4	30.6	31.7	32.8	42.5	43.7	45.8	57 30.59	0.09	32.08	10 58 2.76	15.09
	ψ Ursæ Majoris . .	37	10.3	12.9	14.6	28.1	29.5	31.4	33.0	34.6	48.3	50.0	52.8	1 31.41	0.05	32.08	11 2 3.54	16.64
	p^5 Leonis	38	3.4	5.4	6.5	16.1	17.1	18.3	19.5	20.6	30.2	31.4	33.4	6 18.35	0.08	32.09	11 6 50.52	15.02
	σ Leonis	39	22.8	24.9	26.1	35.6	36.6	37.8	39.0	40.2	49.9	51.1	53.2	13 37.93	0.07	32.09	11 14 10.09	15.12
	83 Leonis, (1st *) .	40	7.8	9.9	11.1	20.5	21.6	22.7	24.0	25.0	34.6	35.8	37.9	19 22.81	+ 0.08	32.09	11 19 54.98	15.08
	83 Leonis, (2d *) . .	41	47.9	49.2	50.4	51.5	53.9	. .	54.0	56.5	57.8	59.0	0.5	19 24.07	— 0.16	32.09	11 19 56.00	15.08
	Iris	42	16.0	18.0	19.2	28.7	29.8	30.9	32.1	33.1	42.7	43.8	46.1	26 30.95	+ 0.09	32.09	11 27 3.13	. .
	υ Leonis	43	14.6	16.8	18.0	27.5	28.6	29.7	30.8	32.0	41.6	42.8	44.8	29 29.75	0.08	32.09	11 30 1.92	15.04
	ο Virginis	44	32.3	34.3	35.5	45.2	46.2	47.5	48.6	49.7	59.4	0.6	2.7	57 47.45	+ 0.07	32.10	11 58 19.62	14.98
	κ Draconis . . .	45	27.1	32.8	36.5	5.0	7.9	11.6	15.1	18.4	47.3	51.0	56.9	27 11.78	— 0.07	32.10	12 27 43.81	14.53
	χ Virginis	46	. .	. .	. .	56.2	57.4	59.5	14.8	17.2	18.5	19.8	21.1	32 10.56	26.14	32.10	12 32 16.52	15.23
	Saturn I . . .	47	12.9	14.3	15.4	16.6	19.0	. .	19.3	21.5	22.7	23.9	25.3	0 49.09	— 0.17	32.11	13 1 21.03	. .
	Saturn II . . .	48	35.1	36.9	38.2	47.8	48.9	50.0	51.1	52.3	1.9	3.0	5.2	0 50.04	+ 0.07	32.11	13 1 22.22	. .
	50 Virginis	49	. .	. .	. .	6.8	7.8	9.0	10.1	11.1	21.0	22.2	24.2	2 14.02	— 4.93	32.11	13 2 41.20	15.40
	Polaris, S. P. . .	†50	. .	. .	. .	51.0	11.0	18.5	31.0	50.0	. .	. .	. .	8 20.30	— 0.72	+32.11	. . . .	— 49.33

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 23, 9.6	+ 31.08	+ 0.021	+ 0.080
23, 23.5	31.55	0.014	+ 0.080
24, 12.3	+ 32.10	+ 0.012	. .

21. Exceedingly unsteady.
24. Faint and unsteady.
35. Unsteady.
50. Through haze.

March 23, 10h. 45m. Image east 0.09 r. Clamp east.

March 23, 0h. to 4h. n. = — 0.07 s.
11h. to 14h. 0.13.
23–24, 21h. to 23h. — 0.02.
23h. to 2h. + 0.04.
10h. to 12h. — 0.06.
12h. to 16h. — 0.11.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Mar. 24	α Virginis	1	17.3	19.4	20.7	30.3	31.3	32.5	33.7	34.8	44.6	45.8	47.8	17 32.56	+ 0.10	+32.11	13 18 4.77	− 15.48
	B. A. C. 4496 . .	2	33.7	35.8	37.0	46.5	47.5	48.8	50.0	51.0	0.6	1.7	3.8	20 48.76	+ 0.08	32.11	13 21 20.95	15.03
	71 Virginis	3	. .	. .	. .	. .	. .	. .	30.0	32.6	33.7	35.0	36.4	22 33.54	− 34.28	32.11	13 22 31.37	14.52
	ζ Virginis	4	1.5	3.5	4.8	14.2	15.2	16.5	17.6	18.7	28.3	29.5	31.5	27 16.48	+ 0.08	32.11	13 27 48.67	14.94
	Moon II	†5	10.7	12.8	14.0	24.0	25.1	26.3	27.5	28.5	38.7	39.9	42.1	33 26.33	0.11	32.12	13 33 58.56	. .
27	κ Libræ	6	22.3	24.4	25.8	36.0	36.9	38.2	39.4	40.6	50.8	51.9	54.1	33 38.22	0.16	31.24	15 34 9.62	16.54
	α Serpentis . . .	7	50.3	52.4	53.5	3.2	4.1	5.3	6.5	7.5	17.2	18.5	20.4	37 5.35	0.06	31.24	15 37 36.65	14.13
	ε Serpentis . . .	8	18.2	20.2	21.5	31.2	32.1	33.2	34.4	35.5	45.2	46.3	48.5	43 33.30	+ 0.06	31.23	15 44 4.59	14.28
	O. Arg. S. 15023 .	9	. .	. .	. .	37.5	38.8	41.2	58.0	0.6	1.9	3.1	4.8	48 53.24	− 28.68	31.23	15 47 55.79	17.26
	π Scorpii	10	52.7	54.9	56.2	6.6	7.6	9.2	10.4	11.6	22.4	23.7	25.7	50 9.18	+ 0.14	31.23	15 50 40.55	17.29
	β Scorpii	11	47.4	49.5	50.9	0.9	1.9	3.2	4.5	5.6	15.9	16.9	19.3	57 3.27	+ 0.16	31.22	15 57 34.65	16.57
	B. A. C. 5330 . .	12	25.4	26.7	28.2	29.6	31.9	. .	35.8	38.4	39.5	40.9	42.1	57 3.85	− 0.09	31.22	15 57 34.98	16.58
	B. A. C. 5364 . .	13	12.0	14.4	15.9	26.6	27.5	28.9	30.2	31.5	42.2	43.4	45.9	1 28.95	+ 0.19	31.22	16 2 0.36	17.41
	c² Scorpii	14	10.3	12.5	13.9	24.7	25.8	27.0	28.4	29.6	40.5	41.9	44.0	3 27.14	0.20	31.22	16 3 58.56	17.54
	O. Arg. S. 15416 .	15	44.5	46.7	48.0	58.2	59.2	0.6	1.8	2.9	13.3	14.5	16.6	6 0.57	0.16	31.22	16 6 31.95	16.72
	O. Arg. S. 15466 .	16	13.3	15.5	16.8	27.1	28.1	29.4	30.6	31.7	42.2	43.3	45.5	8 29.41	0.16	31.21	16 9 0.78	16.74
	σ Scorpii	17	10.2	12.5	13.8	24.5	25.5	26.8	28.0	29.2	39.9	41.2	43.4	12 26.82	0.18	31.21	16 12 58.21	17.25
	Moon II . . .	18	50.1	51.7	53.0	54.2	56.9	. .	2.8	5.4	6.8	8.2	9.7	17 29.74	0.04	31.21	16 18 0.99	. .
		19	13.2	15.5	16.8	27.2	28.2	29.5	30.8	32.1	42.5	43.8	46.2					
	α Scorpii	20	19.0	21.3	22.6	33.0	34.3	35.6	37.0	38.2	48.8	50.1	52.4	20 35.66	0.19	31.21	16 21 7.06	17.35
	β Lyræ	21	15.6	18.2	19.5	30.9	32.0	33.5	35.0	36.2	47.5	49.0	51.6	44 33.55	0.04	31.11	18 45 4.62	9.95
R.	Venus II . . .	22	47.0	49.0	50.3	59.8	1.0	2.2	3.3	4.5	14.4	15.5	17.5	44 2.23	+ 0.11	30.95	22 44 33.29	0.41
28	Sun I	†23	. .	. .	. .	49.0	50.1	51.4	52.6	53.6	3.3	4.4	6.4	28 56.35	− 4.91	30.88	0 29 22.32	. .
	Sun II	24	45.2	47.3	48.5	58.0	59.0	0.1	1.4	2.4	12.3	13.5	15.3	30 0.27	+ 0.07	30.88	0 30 31.22	. .
Y. 31	Moon II . .	25	58.3	59.7	1.0	2.2	4.8	. .	8.7	11.3	12.6	14.0	15.3	17 36.65	− 0.01	31.03	20 17 7.67	. .
		26	20.6	22.8	24.0	34.2	35.3	36.4	37.7	38.8	49.0	50.5	52.5					
	α Cygni	27	56.2	58.8	0.7	14.0	15.3	17.1	18.9	20.3	33.8	35.5	38.5	36 17.19	+ 0.01	31.03	. . . .	8.65
April 6	ε Hydræ	28	1.8	2.8	4.1	5.3	6.3	. .	34.5	36.9	38.2	39.5	40.8	39 21.02	− 16.84	32.29	8 39 36.47	14.84
	* — 41° 18′ . . .	29	59.0	1.6	3.1	16.0	17.2	19.0	20.6	22.0	34.7	36.4	38.9	44 18.95	+ 0.22	32.29	8 44 51.46	10.74
	* — 41° 14′ . . .	30	21.7	24.0	25.8	38.6	39.9	41.5	43.0	44.3	57.3	58.7	1.5	45 41.48	0.22	32.29	8 46 13.99	10.78
	* — 30° 0′ . . .	31	9.4	11.7	13.2	24.2	25.3	26.7	28.0	29.3	40.5	41.7	44.2	49 26.75	0.17	32.29	8 49 59.21	12.04
	Lacaille 3621 . .	32	6.1	8.3	9.6	20.4	21.6	. .	24.2	25.4	36.1	37.4	39.7	53 22.88	0.16	32.29	8 53 55.33	12.16
	* — 30° 28′ . .	33	5.7	8.0	9.4	20.5	21.7	23.0	24.4	25.6	36.7	38.1	40.4	56 23.05	0.17	32.29	8 56 55.51	12.12
	O. Arg. S. 9321 .	34	16.7	18.8	20.1	30.6	31.6	32.9	34.3	35.4	46.9	47.3	49.4	58 33.09	0.15	32.29	8 59 5.53	12.73
	O. Arg. S. 9344 .	35	42.5	44.6	46.0	56.4	57.5	59.0	0.2	1.2	11.6	12.9	15.1	59 58.82	+ 0.15	32.29	9 0 31.26	12.75
	Weisse (2) 10 . .	36	. .	. .	. .	. .	. .	. .	28.2	30.8	32.3	33.6	35.3	2 32.04	− 37.70	32.29	9 2 26.63	16.56
	B. A. C. 3143 . .	37	33.6	36.1	37.8	49.9	51.2	52.7	54.3	55.5	8.1	9.5	12.0	5 52.79	+ 0.21	32.29	9 6 25.29	11.52
	O. Arg. S. 9509 .	38	28.8	31.2	32.5	43.5	44.7	46.1	47.4	48.6	59.7	1.1	3.4	8 46.09	0.17	32.29	9 9 18.55	12.39
	83 Cancri	39	37.4	39.5	40.8	50.9	51.9	53.2	54.4	55.5	5.7	6.8	9.0	10 53.19	0.06	32.29	9 11 25.54	15.76
	O. Arg. S. 9692 .	40	36.9	39.1	40.5	51.3	52.4	53.7	55.0	56.2	7.4	8.6	10.9	18 53.82	+ 0.17	32.29	9 19 26.28	12.66
	* — 27° 46′ . .	41	. .	. .	. .	26.0	27.3	29.6	46.8	49.4	50.9	52.3	53.8	20 42.01	− 29.23	32.29	9 20 45.07	12.74
	* — 27° 47 . .	42	. .	. .	. .	14.0	15.5	17.6	34.9	37.6	38.9	40.4	41.9	21 30.10	29.23	32.29	9 21 33.16	12.75
	ε Antliæ	43	. .	. .	. .	. .	. .	. .	44.9	47.8	49.4	51.0	52.6	23 49.14	− 41.04	32.29	9 23 40.39	12.21
	* — 35° 19′ . .	44	43.8	46.4	47.9	59.5	0.7	2.1	3.7	4.9	16.7	18.2	20.6	25 2.23	+ 0.20	32.29	9 25 34.72	12.25
	Lacaille 3905 . .	45	. .	. .	. .	. .	. .	. .	56.4	59.6	1.0	2.7	4.5	28 0.84	− 42.53	32.29	9 27 50.60	12.07
	O. Arg. S. 9931 .	46	35.4	37.8	39.3	50.3	51.4	52.8	54.2	55.4	6.6	8.0	10.3	30 52.87	+ 0.17	32.29	9 31 25.33	12.72
	* — 35° 20′ . .	47	8.7	11.0	12.6	24.2	25.3	26.8	28.4	29.7	41.5	43.0	45.4	34 26.96	+ 0.20	32.29	9 34 59.45	12.44
	* — 35° 24′ . .	48	. .	. .	. .	56.6	57.8	59.4	0.7	1.9	13.6	15.2	17.5	35 5.34	− 5.88	32.29	9 35 31.75	12.45
	Brisbane 2651 . .	49	51.4	53.9	55.5	8.0	9.1	10.7	12.2	13.5	26.4	27.7	30.5	40 10.81	+ 0.22	+32.29	9 40 43.32	− 12.21

5. Through clouds.
23. Badly defined.

March 27, . . . n. = − 0.20 s.
31, . . . 0.10.
April 6, 8h. to 11h. 0.12.
11h. to 14h. − 0.15.

April 6, 13h. 40m. Image east 0.20 r. Clamp east.
Image west 0.15. Clamp west.
Image east 0.16. Clamp east.

March 27. Wire C very slack.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Mar. 27, 16.5	+ 31.20	− 0.040	+ 0.080
31, 20.6	31.03	. .	. .
April 6, 11.2	+ 32.29	+ 0.001	+ 0.090

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 6	Brisbane 2657 . .	1	. .	. .	. .	49.6	51.2	53.6	13.7	16.6	18.3	20.0	21.8	41 8.10	— 33.77	+32.29	9 41 6.62	— 12.22
Y.	Lacaille 4036 . .	2	57.5	0.0	1.4	13.4	14.7	16.0	17.4	18.7	30.8	32.2	34.8	43 16.08	+ 0.20	32.29	9 43 48.57	12.55
	* — 37° 32′ . .	3	7.8	10.3	11.8	23.8	25.0	26.5	28.1	29.3	41.6	43.2	45.6	45 26.64	0.21	32.29	9 45 59.14	12.52
	* — 27° 48′ . .	4	28.9	31.1	32.6	43.4	44.5	45.8	47.2	48.3	59.3	0.7	2.7	47 45.86	0.17	32.29	9 48 18.32	13.20
	O. Arg. S. 10219 .	5	19.0	21.2	22.6	33.4	34.6	35.9	37.2	38.3	49.4	50.8	53.0	48 35.95	0.17	32.29	9 49 8.41	13.21
	* — 30° 1′ . . .	6	26.5	28.8	30.2	41.1	42.3	43.6	45.0	46.2	57.4	58.8	1.2	52 43.74	0.17	32.29	9 53 16.20	13.16
	Weisse 1243 . .	7	34.7	36.8	38.0	47.8	48.7	50.0	51.2	52.3	2.3	3.5	5.5	57 50.07	0.06	32.29	9 58 22.42	15.40
	Weisse 1279 . .	8	32.5	34.6	35.8	45.6	46.7	47.9	49.0	50.2	0.2	1.5	3.5	59 47.95	0.06	32.29	10 0 20.30	15.40
	O. Arg. S. 10634 .	9	8.9	11.1	12.5	23.6	24.7	26.0	27.4	28.7	40.0	41.2	43.5	20 26.14	0.17	32.29	10 20 58.60	13.65
	ρ Leonis	10	54.0	56.0	57.2	6.8	7.9	9.0	10.2	11.2	21.2	22.3	24.4	25 9.11	0.07	32.29	10 25 41.47	15.20
	Lacaille 4363 . .	11	27.3	29.6	30.9	41.7	42.9	44.2	45.6	46.8	57.6	59.0	1.4	29 44.27	0.17	32.29	10 30 16.73	13.91
	Lacaille 4384 . .	12	56.3	58.9	0.7	12.9	14.4	15.9	17.5	18.9	31.4	32.9	35.5	32 15.94	0.22	32.29	10 32 48.45	13.54
	* — 35° 45′ . .	13	57.8	0.2	1.8	13.5	14.9	16.2	17.7	19.1	30.9	32.2	34.7	35 16.27	0.20	32.29	10 35 48.76	13.76
	O. Arg. S. 10872 .	14	16.3	18.3	19.7	30.4	31.7	33.0	34.3	35.5	46.3	47.6	49.7	39 32.98	+ 0.16	32.29	10 40 5.43	14.10
	O. Arg. S. 10874 .	15	52.8	54.2	55.8	57.2	59.8	. .	7.4	10.1	11.5	12.8	14.4	39 33.60	— 0.11	32.29	10 40 5.78	14.10
	O. Arg. S. 10906 .	16	. .	. .	. .	13.9	15.0	16.4	17.6	18.8	29.5	30.9	33.0	42 21.89	— 5.36	32.29	10 42 48.82	14.18
	O. Arg. S. 10933 .	17	41.0	43.1	44.5	54.8	56.0	57.2	58.5	59.6	10.3	11.5	13.7	44 57.29	+ 0.15	32.29	10 45 29.73	14.28
	* — 30° 26′ . .	18	0.4	2.8	4.2	15.3	16.5	17.9	19.3	20.5	31.6	32.9	35.3	47 17.88	0.17	32.29	10 47 50.34	14.16
	O. Arg. S. 11003 .	19	38.8	41.0	42.5	53.5	54.5	55.8	57.3	58.6	9.8	11.3	13.5	49 56.05	0.17	32.29	10 50 28.51	14.21
	* — 35° 47′ . .	20	0.9	3.0	4.6	16.4	17.6	19.0	20.5	21.8	34.0	35.3	37.8	52 19.17	0.20	32.29	10 52 51.66	14.14
	O. Arg. S. 11069 .	21	3.4	5.5	6.8	17.3	18.5	19.8	21.2	22.4	33.1	34.5	36.7	55 19.94	0.16	32.29	10 55 52.39	14.39
	* — 27° 45′ . .	22	6.8	9.0	10.3	21.3	22.3	23.6	24.9	26.1	37.2	38.5	40.6	0 23.69	0.18	32.29	11 0 56.16	14.45
	O. Arg. S. 11154 .	23	7.4	9.4	10.8	21.4	22.4	23.8	25.0	26.2	36.8	38.1	40.5	3 23.89	0.17	32.29	11 3 56.35	14.54
	Lacaille 4638 . .	24	33.7	36.0	37.3	48.1	49.0	50.3	51.6	52.8	3.4	4.8	7.0	4 50.36	0.17	32.29	11 5 22.82	14.56
	O. Arg. S. 11250 .	25	11.5	13.7	15.1	25.7	26.7	28.0	29.2	30.6	41.3	42.6	44.8	7 28.11	0.17	32.29	11 8 0.57	14.60
	δ Crateris . . .	26	47.6	49.7	50.8	0.5	1.6	2.9	4.0	5.2	15.1	16.3	18.5	12 2.93	0.13	32.29	11 12 35.35	14.75
	Iris	27	17.2	19.2	20.5	30.1	31.2	32.3	33.5	34.6	44.3	45.4	47.5	16 32.35	0.10	32.29	11 17 4.74	. .
	* — 34° 48′ . .	28	30.5	33.0	34.5	46.1	47.3	48.8	50.3	51.6	3.2	4.6	7.0	20 48.81	0.22	32.29	11 21 21.32	14.78
	O. Arg. S. 11446 .	29	33.1	35.3	36.6	47.5	48.6	50.0	51.2	52.5	3.4	4.7	7.0	23 49.99	+ 0.18	32.29	11 24 22.46	14.84
	Lacaille 4777 . .	30	. .	. .	. .	40.7	41.9	43.4	44.9	46.3	58.3	59.6	2.1	25 49.65	— 5.86	32.29	11 26 16.08	14.90
	* — 35° 27′ . .	31	52.4	54.8	56.3	8.0	9.2	10.6	12.1	13.5	25.3	26.6	29.3	27 10.74	+ 0.22	32.29	11 27 43.25	14.92
	O. Arg. S. 11531 .	32	19.9	21.4	22.7	24.0	26.5	. .	32.7	35.6	36.7	38.2	39.8	30 59.75	— 0.09	32.29	11 31 31.95	14.96
	* — 24° 52′ . .	33	44.6	46.8	48.0	58.7	59.8	1.0	2.4	3.5	. .	. .	. .	30 55.60	+ 5.67	32.29	11 31 33.56	14.97
	* — 35° 11′ . .	34	38.9	40.8	42.6	54.5	55.8	57.2	58.6	59.9	11.7	13.0	15.6	20 57.15	0.22	32.29	12 21 29.66	16.04
	* — 35° 5′ . . .	35	53.0	55.3	57.0	8.6	9.8	11.4	12.8	14.0	25.8	27.3	29.8	22 11.35	0.22	32.29	12 22 43.86	16.06
	β Corvi	36	29.4	31.6	32.8	43.1	44.3	45.5	46.9	47.9	58.5	59.6	1.8	26 45.58	+ 0.16	32.29	12 27 18.03	15.65
	Lacaille 5220 . .	37	. .	. .	. .	7.2	8.3	9.6	11.1	12.3	23.6	25.1	27.5	29 15.59	— 5.61	32.29	12 29 42.27	16.03
	Lacaille 5234 . .	38	8.4	10.8	12.3	24.3	25.6	27.2	28.5	29.8	42.0	43.4	45.9	32 27.11	+ 0.23	32.29	12 32 59.63	16.37
	* — 35° 16′ . .	39	5.7	8.3	9.6	21.2	22.4	23.9	25.2	26.6	38.5	39.8	42.4	35 23.96	0.22	32.29	12 35 56.47	16.33
	* — 37° 5′ . . .	40	28.0	30.5	31.9	43.9	45.0	46.5	48.2	49.5	1.4	3.0	5.5	37 46.67	0.23	32.29	12 38 19.19	16.48
	Lacaille 5284 . .	41	11.5	13.9	15.5	26.6	27.8	29.1	30.6	31.7	43.0	44.5	46.9	40 29.19	0.20	32.29	12 41 1.68	16.23
	Weisse 764 . . .	42	45.4	47.3	48.6	58.1	59.1	0.3	1.5	2.5	12.2	13.3	15.3	45 0.33	0.09	32.29	12 45 32.71	15.12
	O. Arg. S. 12529 .	43	29.5	31.7	33.1	43.6	44.8	46.2	47.5	48.7	59.4	0.7	2.9	48 46.19	+ 0.18	32.29	12 49 18.66	16.12
	O. Arg. S. 12533	44	16.5	18.3	19.7	21.2	23.7	. .	30.8	33.6	34.9	36.4	37.7	48 57.28	— 0.08	32.29	12 49 29.49	16.12
	Saturn I . . .	45	53.5	55.6	56.8	6.4	7.3	8.4	9.7	10.8	20.5	21.5	23.6	57 8.55	+ 0.10	32.29	12 57 40.94	. .
	Saturn II . . .	46	33.7	35.1	36.4	37.6	39.7	. .	40.0	42.4	43.7	44.9	46.2	57 9.97	— 0.14	32.29	12 57 42.12	. .
	θ Virginis	47	10.2	12.0	13.4	22.9	24.0	25.2	26.3	27.3	37.0	38.2	40.3	2 25.16	+ 0.10	32.29	13 2 57.55	15.31
	Polaris, S. P. . .	48	. .	. .	. .	48.0	8.0	19.0	30.0	47.0	. .	. .	. .	8 18.40	0.51	32.29	. . . .	48.75
	* — 34° 55′ . .	49	30.9	33.3	34.7	46.5	47.6	48.9	50.5	51.8	3.6	5.0	7.2	18 49.09	0.22	32.29	13 19 21.60	17.10
	71 Virginis	50	44.0	46.0	47.3	56.9	58.0	59.2	0.4	1.5	11.3	12.5	14.6	21 59.25	+ 0.06	+32.29	13 22 31.60	— 14.67

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 6, 11.2	+ 32.29	+ 0.001	+ 0.090

April 6-7, 23h. to 2h. n. = 0.00.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 6	ζ Virginis	1	1. 4	2. 5	4. 6	14. 3	15. 2	16. 5	17. 6	18. 6	28. 5	29. 5	31. 5	27 16. 38	+ 0. 09	+32. 29	13 27 48. 76	— 15. 06
Y.	Venus II . . .	†2	33. 6	35. 8	37. 0	46. 2	47. 5	48. 8	49. 9	51. 0	0. 8	2. 0	4. 0	29 48. 78	0. 09	32. 29	23 30 21. 16	0. 39
	α Andromedæ . .	†3	9. 0	10. 6	12. 1	13. 4	15. 9	. .	. .	26. 9	28. 3	29. 7	31. 2	1 46. 32	3. 61	32. 32	. . . .	12. 80
7	Sun II	†4	10. 4	12. 6	13. 8	23. 4	24. 5	25. 6	26. 7	27. 8	37. 7	38. 9	41. 0	7 25. 67	+ 0. 09	32. 32	1 7 58. 08	64. 61
	6 Cancri	5	. .	. .	. .	52. 7	54. 1	56. 3	13. 4	16. 1	17. 6	19. 1	20. 6	55 8. 74	— 29. 45	32. 44	7 55 11. 73	— 16. 84
	λ Ursæ Minoris, S. P.	6	. .	. .	. .	58. 0	7. 0	6. 0	5. 0	9. 5	. .	. .	. .	59 5. 10	— 1. 96	32. 44	7 59 35. 58	+ 258. 96
	O. Arg. S. 8199 .	7	37. 7	39. 7	41. 3	52. 3	53. 3	54. 7	56. 1	57. 3	8. 4	9. 8	12. 3	5 54. 81	+ 0. 16	32. 44	8 6 27. 09	— 11. 35
	O. Arg. S. 8292 .	8	29. 0	31. 2	32. 7	43. 2	44. 3	45. 6	46. 7	48. 0	58. 6	59. 9	2. 1	9 45. 57	0. 15	32. 44	8 10 18. 16	11. 94
	O. Arg. S. 8348 .	9	8. 2	10. 3	11. 7	. .	. .	. .	. .	. .	37. 7	39. 0	41. 2	11 24. 68	0. 11	32. 44	8 11 57. 23	11. 95
	O. Arg. S. 8343 .	10	48. 5	49. 8	50. 1	52. 4	55. 0	. .	. .	. .	. .	. .	. .	10 51. 16	36. 71	32. 44	8 12 0. 31	11. 95
	O. Arg. S. 8346 .	11	20. 3	22. 5	23. 8	. .	. .	. .	. .	. .	49. 7	51. 2	53. 3	11 36. 80	0. 11	32. 44	8 12 9. 35	11. 95
	Lacaille 3279 . .	12	41. 5	43. 9	45. 3	56. 0	57. 2	58. 5	59. 7	0. 8	12. 0	13. 2	15. 5	15 58. 51	+ 0. 16	32. 44	8 16 31. 11	11. 67
	Lacaille 3299 . .	13	37. 0	38. 1	39. 5	40. 8	42. 1	. .	14. 4	17. 4	18. 6	20. 1	21. 6	17 58. 96	— 19. 23	32. 44	8 18 12. 17	11. 51
	* — 31° 32′ . .	14	34. 6	37. 0	38. 3	49. 6	50. 7	52. 1	53. 5	54. 8	6. 0	7. 4	9. 8	20 52. 16	+ 0. 17	32. 45	8 21 24. 78	11. 39
	Lacaille 3331 . .	15	22. 2	24. 6	26. 0	37. 2	38. 4	39. 7	41. 2	42. 4	53. 7	55. 0	57. 4	21 39. 80	0. 17	32. 45	8 22 12. 42	11. 41
	* — 31° 15′ . .	16	45. 2	47. 7	49. 0	0. 2	1. 3	2. 7	4. 0	5. 2	16. 5	17. 9	20. 4	25 2. 74	+ 0. 17	32. 45	8 25 35. 36	11. 49
	* — 31° 5′ . . .	17	. .	. .	. .	0. 4	1. 6	3. 0	4. 5	5. 5	16. 9	18. 2	20. 5	26 8. 82	— 5. 62	32. 45	8 26 35. 65	11. 52
	* — 30° 48′ . .	18	55. 2	57. 5	58. 8	9. 9	11. 1	12. 6	14. 0	15. 2	26. 4	27. 7	30. 0	29 12. 58	+ 0. 17	32. 45	8 29 45. 20	11. 60
	b Mali	19	57. 8	0. 3	1. 8	13. 4	14. 6	16. 0	17. 5	18. 7	30. 5	32. 0	34. 4	34 16. 09	+ 0. 18	32. 45	8 34 48. 72	11. 26
	* — 32° 40′ . .	20	. .	. .	. .	. .	. .	. .	12. 0	14. 9	16. 4	17. 8	19. 5	38 16. 12	— 39. 80	32. 45	8 38 8. 77	11. 56
	a Mali	21	. .	. .	. .	34. 4	35. 6	37. 0	38. 4	39. 7	51. 0	52. 4	54. 9	37 42. 92	— 5. 72	32. 45	8 38 9. 65	11. 55
	Lacaille 3531 . .	22	34. 2	36. 5	37. 9	49. 2	50. 4	51. 8	53. 2	54. 6	6. 1	7. 5	9. 9	41 51. 94	+ 0. 17	32. 45	8 42 24. 56	11. 61
	Lacaille 3564 . .	23	50. 0	52. 3	53. 8	5. 2	6. 4	7. 9	9. 4	10. 6	22. 3	23. 8	26. [illegible]	45 7. 98	0. 18	32. 45	8 45 40. 61	11. 56
	* — 30° 1′ . .	24	9. 3	11. 6	12. 9	24. 0	25. 0	26. 5	27. 9	29. 0	40. 2	41. 4	43. 9	49 26. 52	0. 16	32. 45	8 49 59. 13	12. 00
	Lacaille 3617 . .	25	21. 9	24. 2	25. 6	36. 6	37. 8	39. 3	40. 6	41. 7	53. 1	54. 6	57. 0	52 39. 31	0. 17	32. 45	8 53 11. 93	11. 94
	* — 30° 29′ . .	26	5. 4	7. 7	9. 2	20. 1	21. 3	22. 9	24. 2	25. 4	36. 5	37. 8	40. 2	56 22. 79	0. 16	32. 46	8 56 55. 41	12. 09
	κ Cancri	27	37. 2	39. 2	40. 5	50. 2	51. 1	52. 4	53. 5	54. 7	4. 5	5. 7	7. 8	59 52. 44	+ 0. 07	32. 46	9 0 24. 97	15. 23
	* — 31° 30′ . .	28	. .	. .	. .	. .	. .	. .	15. 5	18. 2	19. 7	21. 3	22. 6	2 19. 46	— 39. 29	32. 46	9 2 12. 63	12. 14
	B. A. C. 3143 . .	29	33. 4	36. 0	37. 6	49. 6	51. 0	52. 6	54. 1	55. 4	7. 8	9. 4	12. 0	5 52. 67	+ 0. 20	32. 46	9 6 25. 33	11. 49
	O. Arg. S. 9509 .	30	. .	. .	. .	43. 4	44. 6	46. 0	47. 4	48. 5	59. 6	0. 9	3. 3	8 51. 71	— 5. 55	32. 46	9 9 18. 62	12. 37
	Lacaille 3780 . .	31	20. 7	23. 2	24. 9	37. 0	38. 3	39. 8	41. 1	42. 5	55. 0	56. 3	58. 9	12 39. 79	+ 0. 19	32. 46	9 13 12. 44	11. 68
	* — 34° 44′ . .	32	47. 1	49. 5	51. 0	2. 5	3. 7	5. 2	6. 7	7. 9	19. 5	21. 0	23. 6	15 5. 25	0. 18	32. 46	9 15 37. 89	12. 07
	Lacaille 3810 . .	33	24. 5	27. 0	28. 4	40. 0	41. 1	42. 7	44. 1	45. 4	57. 0	58. 4	1. 0	17 42. 69	0. 18	32. 46	9 18 15. 33	12. 15
	B. A. C. 3235 . .	34	11. 1	13. 5	15. 0	26. 7	27. 8	29. 2	30. 7	31. 9	43. 7	45. 1	47. 6	21 29. 31	+ 0. 18	32. 46	9 22 1. 95	12. 23
	Lacaille 3848 . .	35	2. 0	3. 1	4. 7	6. 0	7. 4	. .	41. 5	44. 3	45. 7	47. 2	48. 8	22 25. 07	— 20. 16	32. 46	9 22 37. 37	12. 25
	β Cephei, S. P. . .	†36	4. 1	58. 0	54. 4	26. 7	23. 7	20. 4	16. 8	13. 6	45. 6	42. 0	36. 2	26 20. 14	+ 0. 01	32. 46	9 26 52. 61	2. 47
	O. Arg. S. 9931 .	37	. .	37. 7	39. 0	50. 1	51. 2	52. 7	54. 0	55. 3	6. 6	7. 8	. .	30 52. 71	0. 16	32. 47	9 31 25. 34	12. 74
	Lacaille 3975 . .	38	47. 5	49. 9	51. 3	2. 7	3. 7	5. 2	6. 7	7. 9	19. 3	20. 7	23. 2	35 5. 28	0. 17	32. 47	9 35 37. 92	12. 63
	Lacaille 3984 . .	39	13. 9	16. 2	17. 5	28. 9	30. 1	31. 5	32. 9	34. 1	45. 6	47. 0	49. 5	36 31. 56	0. 17	32. 47	9 37 4. 20	12. 54
	Lacaille 4021 . .	40	55. 8	57. 9	59. 4	10. 8	11. 9	13. 2	14. 7	16. 0	27. 3	28. 8	31. 3	41 13. 37	0. 17	32. 47	9 41 46. 01	12. 76
	Lacaille 4052 . .	41	12. 9	13. 3	16. 7	28. 0	29. 1	30. 5	31. 9	33. 2	44. 6	46. 0	48. 3	45 30. 41	0. 17	32. 47	9 46 3. 05	12. 86
	π Leonis	42	16. 3	18. 1	19. 4	29. 0	30. 0	31. 3	32. 5	33. 5	43. 4	44. 7	46. 4	52 31. 33	+ 0. 08	32. 47	9 53 3. 88	15. 11
	Lacaille 4227 . .	43	. .	. .	. .	15. 6	16. 8	18. 3	19. 7	21. 0	32. 5	33. 9	36. 4	10 24. 28	— 5. 75	32. 48	10 10 51. 01	13. 30
	Lacaille 4250 . .	44	19. 0	21. 4	22. 8	34. 2	35. 3	36. 6	38. 1	39. 3	50. 7	52. 2	54. 5	13 36. 74	+ 0. 17	32. 48	10 14 9. 39	13. 42
	Lacaille 4287 . .	45	9. 2	10. 6	13. 2	25. 1	26. 5	28. 1	29. 6	30. 8	43. 0	44. 5	47. 0	18 27. 96	0. 19	32. 48	10 19 0. 63	13. 28
	Lacaille 4307 . .	46	16. 2	18. 7	20. 2	32. 2	33. 3	34. 9	36. 3	37. 7	50. 0	51. 4	53. 8	22 34. 97	0. 19	32. 48	10 23 7. 64	13. 39
	* — 35° 25′ . .	47	33. 1	35. 6	37. 2	49. 0	50. 1	51. 5	53. 0	54. 4	6. 2	7. 5	10. 0	26 51. 60	0. 18	32. 48	10 27 24. 26	13. 57
	Lacaille 4365 . .	48	33. 9	36. 2	37. 8	49. 2	. .	51. 7	. .	54. 3	5. 8	7. 1	9. 6	29 51. 73	0. 15	32. 48	10 30 24. 36	13. 74
	Lacaille 4399 . .	49	51. 1	53. 4	54. 9	6. 6	7. 7	9. 3	10. 7	12. 0	23. 8	25. 1	27. 8	34 9. 31	+ 0. 18	32. 48	10 34 41. 97	13. 75
	Lacaille 4407 . .	50	. .	. .	. .	45. 0	46. 4	47. 8	49. 2	50. 5	2. 3	3. 5	6. 1	34 53. 85	— 5. 87	+32. 48	10 35 20. 46	— 13. 76

2-3. Faint; through clouds.
4. Faint.
36. Rather hurried.

April 7, 7h. to 12h. n. = — 0. 10.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 7, 8. 6	+ 32. 45	+ 0. 018	+ 0. 090

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 7	Lacaille 4437 . .	1	37.3	39.8	41.4	53.2	54.4	55.8	57.3	58.6	10.7	12.0	14.5	37 55.91	+ 0.19	+32.48	10 38 28.58	— 13.79
Y.	* — 36° 14′ . .	2	48.4	50.9	52.4	4.1	5.3	6.7	8.1	9.5	21.6	23.1	25.4	39 6.86	+ 0.19	32.49	10 39 39.54	13.82
	l Leonis	3	34.1	35.1	36.4	37.6	38.6	. .	7.1	9.7	10.9	12.2	13.6	41 53.53	— 17.06	32.49	10 42 8.96	15.22
	Lacaille 4503 . .	4	4.2	6.9	8.5	20.7	21.9	23.6	25.2	26.8	39.2	40.7	43.4	46 23.74	+ 0.20	32.49	10 46 56.43	13.90
	B. A. C. 3755 . .	5	34.8	37.2	38.8	50.6	51.8	53.4	54.8	56.0	8.1	9.5	12.0	49 53.36	0.19	32.49	10 50 26.04	14.06
	Lacaille 4558 . .	6	48.1	50.6	52.2	4.5	5.8	7.3	8.9	10.2	22.9	24.3	27.0	54 7.44	0.20	32.49	10 54 40.13	14.09
	Weisse 1049 . .	7	14.8	16.8	18.1	28.0	28.9	30.2	31.3	32.4	42.3	43.5	45.7	58 30.18	+ 0.07	32.49	10 59 2.74	15.25
	Lacaille 4616 . .	8	. .	. .	. .	. .	. .	. .	25.7	28.7	30.4	32.0	33.6	2 30.08	— 42.93	32.49	11 2 19.64	14.30
	Lacaille 4638 . .	9	33.6	35.8	37.0	47.7	48.9	50.1	51.3	52.6	3.2	4.5	6.8	4 50.14	+ 0.15	32.49	11 5 22.78	15.55
	Lacaille 4667 . .	10	52.5	55.0	56.8	8.6	10.0	11.8	13.2	14.5	27.0	28.5	31.0	8 11.72	0.20	32.50	11 8 44.42	14.46
	δ Crateris	11	47.3	49.3	50.7	0.4	1.4	2.7	3.8	4.9	14.9	16.1	18.2	12 2.70	0.12	32.50	11 12 35.32	14.75
	Iris	12	39.0	41.0	42.3	51.8	52.8	54.0	55.1	56.2	5.8	6.9	8.9	15 53.98	0.10	32.50	11 16 26.58	. .
	Lacaille 4746 . .	13	18.6	21.0	22.6	34.4	35.9	37.4	38.9	40.1	52.4	53.7	56.3	19 37.39	0.19	32.50	11 20 10.08	14.75
	Lacaille 4760 . .	14	16.6	19.2	20.7	32.6	33.9	35.4	36.9	38.2	50.4	51.8	54.4	22 35.47	0.19	32.50	11 23 8.16	14.82
	B. A. C. 3927 . .	15	22.4	24.9	26.5	38.8	40.1	41.7	43.1	44.6	57.2	58.5	1.1	25 41.72	+ 0.20	32.50	11 26 14.42	14.90
	B. A. C. 3929 . .	16	. .	. .	. .	27.6	28.9	30.4	31.8	33.3	46.0	47.6	50.2	26 36.98	— 6.25	32.50	11 27 3.23	14.92
	Lacaille 4814 . .	17	2.5	4.9	6.5	18.8	20.0	21.4	22.9	24.3	36.7	38.0	40.6	30 21.51	+ 0.20	32.50	11 30 54.21	15.01
	Lacaille 4824 . .	†18	9.5	12.3	13.7	25.9	27.0	28.8	30.3	31.5	44.0	45.3	47.9	31 28.75	+ 0.20	32.50	11 32 1.45	15.03
	Lacaille 4830 . .	19	7.3	8.6	9.9	11.5	12.8	. .	48.8	51.8	53.5	55.0	56.9	32 31.61	— 21.31	32.50	11 32 42.80	15.05
	Lacaille 4882 . .	20	45.0	47.5	48.9	0.6	1.7	3.3	4.6	5.7	17.4	18.9	21.3	39 3.17	+ 0.18	32.50	11 39 35.85	15.15
	β Leonis	†21	22.0	23.9	25.3	35.0	36.0	37.5	38.6	39.7	49.7	50.8	53.0	41 37.41	+ 0.07	32.51	11 42 9.99	14.97
	Venus II . . .	22	5.7	7.7	9.1	18.6	19.6	20.8	22.0	23.1	32.8	33.9	36.0	34 20.85	. .	. .	. . . .	0.39
8	Sun I	23	41.3	43.3	44.6	54.1	55.1	56.4	57.6	58.7	8.3	9.6	11.6	8 56.42	. .	. .	. . . .	. .
N.	Sun II	24	50.5	52.5	53.8	3.2	4.3	5.5	6.8	7.8	17.4	18.7	20.7	11 5.56	. .	. .	. . . .	. .
10	Moon I	25	. .	. .	. .	. .	. .	. .	17.7	20.4	21.8	23.3	24.6	57 21.56	— 36.63	31.81	4 57 16.74	. .
	β Orionis	26	13.7	15.9	17.2	26.7	27.6	28.9	30.1	31.1	41.8	42.1	44.0	7 29.01	+ 0.09	31.81	. . . .	12.26
11	δ Crateris	27	. .	. .	. .	1.3	2.4	3.6	4.8	5.8	15.9	17.1	19.2	12 8.76	— 5.04	31.63	. . . .	14.72
R.	Weisse 211 . . .	28	37.2	39.2	40.4	50.1	51.2	52.4	53.8	54.8	4.6	5.9	8.0	12 52.51	+ 0.07	31.63	11 13 24.21	14.75
Y.	α Pegasi	29	12.9	15.1	16.4	26.2	27.2	28.5	29.6	30.7	40.7	41.8	43.9	57 28.45	0.12	31.30	. . . .	12.57
	Venus I . . .	30	10.8	12.6	13.8	23.5	24.5	25.7	26.9	28.0	37.6	38.7	40.9	52 25.73	+ 0.09	31.30	23 52 57.12	. .
	Venus II . . .	31	50.4	51.7	53.0	54.1	56.6	. .	56.8	59.3	0.4	1.7	3.1	52 26.71	— 0.15	31.30	23 52 57.86	. .
	α Andromedæ . .	32	33.7	36.1	37.7	48.4	49.5	50.7	52.2	53.4	4.3	5.6	8.0	0 50.88	+ 0.15	31.30	. . . .	12.87
	Polaris	33	. .	. .	. .	. .	. .	. .	. .	21.0	9.0	2.5	56.0	31 37.12	—23 16.32	31.29	. . . .	. .
12	Sun II . . . {	34	11.2	12.7	13.9	15.0	17.4	. .	18.3	20.8	22.0	23.3	24.6	} 25 47.79	0.00	31.29	1 26 19.08	64.81
		35	32.6	34.4	35.8	45.4	46.4	47.7	48.8	49.8	59.7	0.9	2.8					
R.	α Pegasi	36	13.5	15.5	16.8	26.5	27.6	28.9	30.1	31.1	41.2	42.3	44.4	57 28.90	+ 0.15	30.91	. . . .	12.63
	Polaris	37	1.0	22.0	13.0	. .	. .	. .	. .	. .	. .	. .	. .	59 12.00	9 9.13	30.89	. . . .	. .
13	Moon I	38	45.0	47.3	48.6	58.7	59.9	1.2	2.4	3.5	13.9	15.2	17.3	38 1.18	0.16	30.85	7 38 32.19	.
	6 Cancri	39	23.5	25.8	27.3	38.0	39.2	40.5	41.9	43.0	54.1	55.3	57.6	54 40.56	0.23	30.85	7 55 11.64	16.72
	ζ Cancri (1st *) . .	40	39.7	41.9	43.1	53.0	54.1	55.3	56.5	57.6	7.8	9.0	11.0	3 55.36	+ 0.17	30.84	8 4 26.37	15.68
	ζ Cancri (2d *) . .	41	18.1	19.4	21.7	22.0	24.4	27.5	27.5	30.1	31.4	32.7	34.0	3 56.13	— 0.08	30.84	8 4 26.89	15.68
	ρ Leonis	†42	55.2	57.3	58.5	8.0	9.1	10.4	11.7	12.7	22.4	23.6	25.6	25 10.41	+ 0.13	30.83	10 25 41.37	15.13
17	Moon I	43	14.9	16.9	18.1	27.7	28.8	30.0	31.2	32.2	42.1	43.4	45.5	48 30.07	0.10	29.61	10 48 59.78	. .
	χ Leonis	44	17.7	19.7	20.9	30.6	31.6	32.8	34.0	35.0	44.7	46.0	47.9	57 32.81	+ 0.11	29.61	10 58 2.53	14.93
	ρ^3 Leonis	45	. .	. .	. .	. .	. .	. .	0.9	3.3	4.6	5.8	7.1	0 4.34	— 33.59	29.61	11 0 0.36	14.91
	δ Leonis	46	9.3	11.3	12.5	23.0	24.0	25.1	26.3	27.4	38.1	39.2	41.3	6 25.23	+ 0.13	29.61	11 6 54.97	15.40
	φ Leonis	47	2.9	4.9	6.3	15.6	16.7	17.8	19.0	20.0	29.8	30.9	32.9	9 17.89	0.10	29.61	11 9 47.60	14.84
Y.	α Pegasi	48	15.2	17.3	18.5	28.3	29.4	30.6	31.8	32.9	42.7	44.0	46.2	57 30.63	+ 0.12	+29.61	. . . .	— 12.73

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 10, 5.1	+ 31.81	— 0.006	+ 0.090
11, 23.5	31.30	0.003	. .
13, 5.8	30.86	0.007	+ 0.090
17, 11.0	+ 29.61	— 0.014	+ 0.100

18. Faint.
21. Unsteady.
42. Faint; through clouds.

	s.
April 10–11–12, . . . n. =	+ 0.09.
12–13, 22h. to 11h.	0.24.
17, . . .	+ 0.05.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 17	α Andromedæ	1	35.9	. .	39.7	50.5	51.5	52.9	54.3	55 4	6.5	. .	10.0	0 52.97	+ 0.14	+29.32	0 1 22.43	— 12.97
R.	Polaris	2	. .	. .	. .	46.0	27.0	14.0	3.5	47.0	. .	. .	. .	8 15.50	8.00	29.32	. . . .	50.52
18	Sun II	3	46.0	48.2	49.4	58.9	0.1	1.2	2.5	3.5	13.5	14.7	16.6	48 1.33	0.11	29.32	1 48 30.76	— 65.13
	Mercury I	4	36.6	38.6	40.0	49.8	51.0	52.2	53.4	54.6	4.6	6.0	8.2	45 52.27	0.12	29.32	2 46 21.71	+ 0.21
	α Tauri	†5	1.0	2.6	3.9	5.1	7.4	23.0	24.8	26.4	. .	. .	. .	27 11.78	+ 26.87	29.32	4 28 7.97	— 14.57
	Iris	†6	. .	. .	. .	. .	. .	. .	. .	. .	41.2	42.7	44.5	10 42.80	— 13.22	29.32	11 10 58.90	14.84
	τ Leonis	7	14.6	16.8	18.0	27.6	28.6	29.7	30.9	32.0	41.6	42.9	44.8	20 29.77	+ 0.10	29.32	11 20 59.19	14.98
	Weisse 349	8	54.8	56.0	57.4	58.5	0.7	. .	1.2	3.4	4.6	5.8	7.1	20 30.94	— 0.14	29.32	11 21 0.12	14.97
	Moon I	9	57.3	59.2	0.4	10.3	11.3	12.5	13.7	14.8	24.6	25.9	27.9	35 12.54	+ 0.10	29.32	11 35 41.96	. .
	Lacaille 4890	10	44.7	46.9	48.3	59.2	0.2	1.5	2.9	4.3	15.3	16.8	18.9	40 1.73	0.12	29.32	11 40 31.17	15.07
	β Virginus	11	55.0	56.9	58.3	7.6	8.7	9.9	11.1	12.1	21.8	23.0	25.0	43 9.95	0.10	29.32	11 43 39.37	15.00
	* — 26° 55′	†12	33.7	35.8	37.4	48.3	49.5	50.7	52.0	53.1	4.1	5.5	7.7	50 50.71	0.11	29.32	11 51 20.14	15.23
	Weisse 980	13	54.8	56.0	57.4	58.5	0.9	. .	. .	. .	. .	. .	. .	56 57.52	33.74	29.32	11 58 0.58	15.01
	o Virginis	14	35.0	36.9	38.2	47.9	48.8	50.1	51.4	52.4	2.0	3.4	5.3	57 50.13	+ 0.10	29.32	11 58 19.55	14.95
	10 Virginis	†15	. .	. .	. .	. .	. .	. .	46.9	49.0	50.4	51.6	53.0	2 50.18	— 33.59	29.32	12 2 45.91	15.04
	13 Virginis	16	0.5	2.4	3.6	13.1	14.3	15.5	16.6	17.6	27.3	28.5	30.4	11 15.44	+ 0.10	29.32	12 11 44.86	15.08
	η Virginis	17	15.4	17.5	18.6	28.2	29.3	30.4	31.5	32.5	42.3	43.3	45.5	12 30.41	0.10	29.32	12 12 59.83	15.07
Y.	α Pegasi	18	15.2	17.3	18.5	28.3	29.4	30.7	31.9	33.0	42.9	44.2	46.2	57 30.69	0.10	29.30	22 58 0.09	12.76
	α Andromedæ	19	. .	38.2	39.8	50.6	51.7	53.0	54.3	55.5	6.4	7.8	. .	0 53.03	+ 0.12	29.29	0 1 22.44	12.99
	Venus II	20	22.8	24.1	25.4	26.5	28.8	. .	29.1	31.6	32.8	34.0	35.4	23 59.05	— 0.14	29.29	0 24 28.20	— 0.37
	Polaris	21	. .	. .	. .	50.0	28.0	18.0	7.0	47.5	. .	. .	. .	8 18.10	+ 5.98	29.28	. . . .	. .
19	Sun I	22	19.0	20.8	22.1	31.8	32.8	34.0	35.2	36.4	46.3	47.5	49.6	49 34.14	0.10	29.27	1 50 3.51	. .
	Sun II	23	29.2	31.3	32.7	42.3	43.3	44.5	45.7	46.9	56.6	57.9	0.0	51 44.58	+ 0.10	29.27	1 52 13.95	. .
	Mercury I	24	10.9	12.3	13.6	14.9	17.3	. .	21.0	23.4	24.6	25.9	27.5	52 49.14	— 0.15	29.27	2 53 18.26	+ 0.22
	* — 30° 29′	25	8.6	10.9	12.2	23.2	24.4	25.8	27.2	28.4	39.7	41.1	43.2	56 25.88	+ 0.14	29.22	8 56 55.22	— 11.86
	κ Cancri	26	40.1	42.2	43.5	53.0	54.0	55.3	56.6	57.6	7.4	8.7	10.8	59 55.38	0.09	29.22	9 0 24.69	15.04
	O. Arg. S. 9418	27	2.7	4.9	6.3	17.3	18.4	19.7	21.1	22.3	33.3	34.7	37.0	3 19.79	0.14	29.22	9 3 49.15	12.10
	O. Arg. S. 9481	28	47.8	50.2	51.4	2.4	3.5	4.8	6.2	7.4	18.5	19.8	22.1	7 4.92	0.14	29.22	9 7 34.28	12.18
	O. Arg. S. 9522	29	18.0	20.1	21.6	32.2	33.3	34.6	35.9	37.1	48.0	49.3	51.6	9 34.70	0.13	29.22	9 10 4.05	12.42
	* — 35° 6′	30	28.5	30.8	32.4	43.9	45.1	46.6	48.1	49 4	1.3	2.7	5.2	11 46.73	+ 0.15	29.22	9 12 16.10	11.73
	O. Arg. S. 9600	31	. .	. .	. .	34.1	35.2	36.5	37.8	38.9	49.9	51.3	53.6	13 42.16	— 5.43	29.22	9 14 5.95	12.46
	* — 34° 56′	32	29.4	31.9	33.4	45.0	46.2	47.7	49.2	50.4	2.3	3.7	6.0	16 47.75	+ 0.15	29.21	9 17 17.11	11.86
	α Hydræ	33	11.9	13.9	15.0	24.6	25.6	26.9	28.0	29.1	38.9	40.2	42.1	20 26.93	0.11	29.21	9 20 56.25	13.85
	ε Antliæ	34	52.5	54.8	56.4	. .	. .	. .	. .	. .	25.3	26.7	29.2	23 10.82	0.10	29.21	9 23 40.13	11.96
	Lacaille 3889	35	7.0	9.4	10.9	22.5	23.7	25.1	26.6	27.9	39.8	41.1	43.7	25 25.25	+ 0.15	29.21	9 25 54.61	12.02
	Lacaille 3905	36	18.0	19.4	20.9	22.5	23.7	. .	59.4	2.5	3.8	5.5	7.2	27 42.29	— 21.17	29.21	9 27 50.33	11.81
	Lacaille 3945	37	7.3	9.6	11.0	21.9	23.0	24.4	25.8	27.0	38.3	39.6	41.8	31 24.52	+ 0.14	29.21	9 31 53.87	12.54
	* — 35° 24′	38	43.6	46.1	47.6	59.2	0.6	2.0	3.4	4.6	16.5	17.9	20.5	35 2.00	0.15	29.21	9 35 31.36	12.21
	* — 29° 11′	39	37.9	40.0	41.4	52.4	53.5	55.0	56.2	57.4	8.5	9.9	12.3	36 54.95	0.14	29.21	9 37 24.30	12.71
	* — 37° 33′	40	9.7	12.3	13.8	25.7	27.0	28.5	30.0	31.4	43.5	44.8	47.6	41 28.57	0.16	29.21	9 41 57.94	12.19
	114 (W.)	41	31.6	33.6	34.8	44.9	45.9	47.0	48.3	49.4	59.3	0.4	2.5	45 47.06	0.09	29.21	9 46 16.36	15.32
	* — 40° 6′	42	43.3	45.9	47.6	0.0	1.3	2.7	4.3	5.7	18.4	19.9	22.5	49 2.87	0.16	29.21	9 49 32.24	12.18
	* — 40° 9′	43	42.6	45.0	46.7	59.2	0.4	2.0	3.6	5.0	17.7	19.3	21.9	50 2.13	0.16	29.21	9 50 31.50	12.20
	* — 35° 35′	44	31.6	34.2	35.7	47.5	48.6	50.0	51.5	52.8	4.6	6.1	8.6	53 50.11	0.15	29.21	9 54 19.47	12.63
	O. Arg. S. 10387	45	51.3	53.5	54.8	5.1	6.2	7.5	8.8	9.9	20.5	21.7	24.0	1 7.57	0.13	29.21	10 1 36.91	13.47
	Lacaille 4186	46	19.6	22.3	23.9	36.5	37.6	39.3	40.8	42.0	54.8	56.3	59.0	5 39.28	0.16	29.21	10 6 8.65	12.62
	* — 38° 39′	47	36.3	38.8	40.4	52.7	53.8	55.5	56.9	58.4	10.7	12.3	14.8	7 55.51	0.16	29.21	10 8 24.88	12.78
	γ Leonis, (1st *)	48	45.4	47.5	48.9	58.8	0.0	1.3	2.6	3.7	14.0	15.2	17.5	12 1.35	+ 0.09	29.21	10 12 30.65	15.65
	γ Leonis, (2d *)	49	23.2	24.7	25.9	27.1	29.7	. .	34.0	36.4	37.7	39.0	40.5	12 1.82	— 0.16	+29.21	10 12 30.87	— 15.57

5. Faint; through clouds.
6. Very faint.
12. Faint.
15. Through clouds.

s.
April 17–18, 22h. to 5h. n. = + 0.05.
18, 11h. to 13h. 0.00.
18–19, 22h. to 3h. 0.00.
19, 8h. to 11h. — 0.04.
11h. to 14h. — 0.08.
April 18. Cloudy; stars steady when visible.

r.
April 17, 13h. 25m. Image east 0.12. Clamp east.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	e.
h.	s.	s.	s.
April 18, 8.0	+ 29.32	0.000	+ 0.100
19, 8.6	+ 29.22	— 0.008	+ 0.100

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. April 19 Y.	* — 35° 32′ . .	1	13. 5	15. 9	17. 4	29. 0	30. 2	31. 7	33. 0	34. 4	46. 4	47. 9	50. 2	15 31. 78	+ 0. 15	+29. 21	10 16 1. 14	— 13. 13
	Weisse 377 . . .	2	26. 2	28. 2	29. 5	39. 3	40. 3	41. 5	42. 7	43. 7	53. 6	54. 8	56. 8	21 41. 51	0. 09	29. 21	10 22 10. 81	15. 11
	Weisse 412 . . .	3	28. 8	30. 8	32. 1	41. 8	42. 8	43. 9	45. 1	46. 3	56. 2	57. 2	59. 4	23 44. 04	0. 09	29. 21	10 24 13. 34	15. 09
	Weisse 439 . . .	4	56. 7	58. 7	0. 0	9. 5	10. 7	11. 9	13. 0	14. 2	24. 0	25. 2	27. 2	25 11. 92	0. 09	29. 21	10 25 41. 22	15. 10
	* — 35° 40′ . .	5	. .	. .	. .	54. 3	55. 5	56. 9	58. 4	59. 7	. .	. .	. .	28 56. 96	0. 21	29. 21	10 29 26. 38	13. 44
	* — 35° 39′ . .	6	18. 6	21. 0	22. 5	34. 2	35. 4	37. 0	38. 4	39. 7	51. 6	52. 9	55. 5	29 36. 98	0. 15	29. 21	10 30 6. 34	13. 46
	Lacaille 4384 . .	7	59. 2	1. 8	3. 4	15. 8	17. 0	18. 7	20. 4	21. 6	34. 4	35. 7	38. 3	32 18. 75	0. 16	29. 20	10 32 48. 11	13. 55
	O. Arg. S. 10849 .	8	14. 0	16. 2	17. 5	27. 9	28. 9	30. 2	31. 6	32. 7	43. 2	44. 6	46. 7	37 30. 32	0. 13	29. 20	10 37 59. 65	14. 04
	O. Arg. S. 10872 .	9	. .	. .	. .	33. 3	34. 4	35. 8	37. 0	38. 3	. .	. .	. .	39 35. 76	0. 18	29. 20	10 40 5. 14	13. 95
	O. Arg. S. 10874 .	10	19. 3	21. 7	23. 0	. .	. .	. .	. .	. .	49. 6	51. 0	53. 3	39 36. 32	0. 08	29. 20	10 40 5. 60	13. 95
	O. Arg. S. 10906 .	11	2. 6	4. 8	6. 2	16. 8	17. 8	19. 1	20. 5	21. 7	32. 5	33. 8	36. 0	42 19. 25	0. 13	29. 20	10 42 48. 58	14. 04
	O. Arg. S. 10933 .	12	43. 9	46. 0	47. 5	57. 8	58. 8	0. 2	1. 4	2. 5	13. 1	14. 5	16. 8	45 0. 23	0. 13	29. 20	10 45 29. 56	14. 15
	* — 27° 45′ . .	13	50. 3	52. 5	53. 9	4. 6	5. 7	7. 2	8. 5	9. 7	20. 4	21. 8	24. 0	50 7. 15	0. 14	29. 20	10 50 36. 49	14. 14
	O. Arg. S. 11015 .	14	45. 2	47. 6	48. 9	59. 8	0. 8	2. 1	3. 5	4. 7	15. 6	17. 0	19. 0	51 2. 20	0. 13	29. 20	10 51 31. 53	14. 16
	O. Arg. S. 11069 .	15	6. 3	8. 4	9. 8	20. 4	21. 5	22. 8	24. 0	25. 3	36. 0	37. 4	39. 7	55 22. 87	0. 13	29. 20	10 55 52. 20	14. 26
	O. Arg. S. 11154 .	16	9. 8	12. 0	13. 4	24. 2	25. 4	26. 6	28. 1	29. 2	40. 1	41. 5	43. 7	0 26. 73	0. 14	29. 20	11 0 56. 07	14. 33
	O. Arg. S. 11188 .	17	6. 9	9. 0	10. 3	20. 9	22. 0	23. 4	24. 7	25. 8	36. 6	37. 9	40. 0	2 23. 41	0. 15	29. 20	11 2 52. 76	14. 40
	O. Arg. S. 11208 .	18	10. 2	12. 5	13. 9	24. 4	25. 5	26. 7	28. 0	29. 2	39. 8	41. 1	43. 4	3 26. 79	+ 0. 15	29. 20	11 3 56. 14	14. 42
	* — 25° 23′ . .	19	. .	. .	. .	. .	. .	. .	45. 8	48. 5	50. 0	51. 3	52. 7	4 49. 66	— 37. 10	29. 20	11 4 41. 76	14. 43
	O. Arg. S. 11250 .	20	14. 5	16. 8	18. 0	28. 5	29. 7	30. 9	32. 3	33. 5	44. 2	45. 5	47. 8	7 31. 06	+ 0. 15	29. 20	11 8 0. 41	14. 49
	Iris	21	53. 4	55. 3	56. 6	6. 0	6. 9	8. 2	9. 4	10. 4	20. 1	21. 3	23. 3	10 8. 26	0. 10	29. 20	11 10 37. 56	. .
	Lacaille 4713 . .	22	50. 4	52. 9	54. 3	5. 8	7. 0	8. 6	10. 0	11. 3	23. 0	24. 5	26. 9	14 8. 61	+ 0. 18	29. 20	11 14 37. 99	14. 52
	Lacaille 4725 . .	23	55. 4	56. 6	58. 0	59. 4	0. 4	. .	32. 3	35. 0	36. 4	37. 8	39. 2	16 17. 05	— 18. 90	29. 20	11 16 27. 35	14. 61
	τ Leonis	24	14. 9	16. 9	18. 0	27. 7	28. 7	29. 8	31. 0	32. 1	41. 7	42. 9	45. 0	20 29. 88	+ 0. 11	29. 20	11 20 59. 19	14. 97
	Weisse 349 . . .	25	54. 8	56. 1	57. 3	58. 5	0. 9	. .	1. 1	3. 5	4. 7	6. 0	7. 3	20 31. 02	— 0. 13	29. 20	11 21 0. 09	14. 96
	O. Arg. S. 11446 .	26	36. 0	38. 3	39. 7	50. 5	51. 5	52. 9	54. 3	55. 5	6. 4	7. 8	10. 0	23 52. 99	+ 0. 16	29. 20	11 24 22. 35	14. 76
	* — 40° 23′ . .	27	51. 9	54. 5	56. 1	8. 5	9. 9	11. 4	12. 9	14. 4	27. 0	28. 7	31. 3	27 11. 51	0. 20	29. 20	11 27 40. 91	14. 84
	* — 34° 22′ . .	28	49. 0	51. 5	53. 0	4. 6	5. 6	7. 1	8. 7	9. 8	21. 6	23. 0	25. 5	30 7. 22	0. 18	29. 20	11 30 36. 60	14. 88
	O. Arg. S. 11557 .	29	30. 8	33. 2	34. 5	45. 6	46. 7	47. 9	49. 3	50. 5	1. 7	2. 9	5. 5	32 48. 05	0. 16	29. 20	11 33 17. 41	14. 92
	* — 36° 51′ . .	30	57. 5	0. 0	1. 4	13. 3	14. 5	16. 0	17. 5	18. 9	30. 9	32. 4	34. 8	38 16. 11	0. 19	29. 20	11 38 45. 50	15. 09
	β Virginis	31	55. 0	57. 0	58. 3	8. 0	8. 9	10. 2	11. 3	12. 4	21. 8	23. 0	25. 0	43 10. 08	0. 10	29. 20	11 43 39. 38	15. 00
	B. A. C. 4025 . .	32	11. 4	13. 5	14. 7	24. 1	25. 1	26. 3	27. 5	28. 5	38. 3	39. 4	41. 4	47 26. 38	0. 10	29. 20	11 47 55. 68	15. 01
	O. Arg. S. 11831 .	33	20. 8	23. 0	24. 4	35. 1	36. 2	37. 5	38. 8	39. 9	50. 6	51. 9	54. 1	53 37. 48	0. 15	29. 19	11 54 6. 82	15. 25
	O. Arg. S. 11876 .	34	51. 6	54. 0	55. 5	6. 5	7. 6	9. 0	10. 4	11. 6	22. 8	24. 2	26. 5	57 9. 06	0. 16	29. 19	11 57 38. 51	15. 40
	O. Arg. S. 11908 .	35	20. 6	22. 8	24. 0	34. 4	35. 5	36. 8	38. 1	39. 2	49. 8	51. 0	53. 2	59 36. 85	0. 14	29. 19	12 0 6. 18	15. 30
	10 Virginis	36	1. 7	3. 6	5. 0	14. 4	15. 5	16. 6	17. 8	18. 8	28. 4	29. 6	31. 7	2 16. 65	0. 10	29. 19	12 2 45. 94	15. 04
	* — 28° 43′ . .	37	59. 0	1. 1	2. 5	13. 4	14. 5	15. 9	17. 2	18. 5	29. 2	30. 5	32. 6	9 15. 85	0. 16	29. 19	12 9 45. 20	15. 58
	η Virginis	38	15. 4	17. 5	18. 6	28. 2	29. 2	30. 4	31. 6	32. 6	. .	. .	. .	12 25. 44	+ 5. 09	29. 19	12 12 59. 72	15. 07
	Moon	39	. .	. .	. .	57. 8	58. 7	0. 0	1. 2	2. 3	12. 0	13. 2	15. 4	23 5. 08	— 4. 99	29. 19	12 23 29. 28	. .
	χ Virginis	40	32. 3	34. 1	35. 5	45. 1	46. 1	47. 2	48. 5	49. 5	59. 2	0. 5	1. 6	31 47. 24	+ 0. 11	29. 19	12 32 16. 54	15. 30
	* — 37° 5′ . . .	41	31. 2	33. 6	35. 1	47. 0	48. 3	49. 7	51. 3	52. 7	4. 8	6. 1	8. 7	37 49. 86	0. 19	29. 19	12 38 19. 24	16. 49
	Lacaille 5295 . .	42	21. 9	24. 3	25. 7	36. 7	37. 7	39. 0	40. 4	41. 6	53. 0	54. 2	56. 5	42 39. 18	0. 16	29. 19	12 43 8. 53	16. 20
	ψ Virginis	43	35. 5	37. 6	38. 8	48. 3	49. 4	50. 6	51. 8	52. 8	2. 6	3. 8	5. 9	46 50. 65	0. 11	29. 19	12 47 19. 95	15. 43
	* — 32° 24′ . .	44	19. 8	22. 2	23. 7	35. 0	36. 2	37. 6	38. 8	40. 2	51. 7	52. 9	55. 3	49 37. 58	0. 17	29. 19	12 50 6. 94	16. 46
	O. Arg. S. 12573 .	45	13. 4	15. 7	17. 0	27. 5	28. 5	29. 8	31. 1	32. 3	42. 7	43. 9	46. 0	52 29. 81	0. 14	29. 19	12 52 59. 14	16. 03
	O. Arg. S. 12615 .	46	49. 4	51. 7	52. 8	3. 4	4. 6	5. 8	7. 1	8. 4	19. 0	20. 3	22. 6	56 5. 92	0. 15	29. 19	12 57 35. 26	16. 18
	O. Arg. S. 12655 .	47	28. 5	30. 8	32. 3	43. 2	44. 4	45. 7	46. 9	48. 4	59. 4	0. 8	3. 1	59 45. 77	0. 16	29. 18	13 0 15. 11	16. 48
	θ Virginis	48	13. 4	15. 4	16. 5	26. 0	27. 0	28. 4	29. 4	30. 5	40. 1	41. 2	43. 4	2 28. 30	+ 0. 11	29. 18	13 2 57. 59	15. 36
	Polaris, S. P. . .	49	. .	. .	. .	55. 0	16. 0	27. 0	38. 5	57. 0	. .	. .	. .	8 26. 70	— 2. 74	29. 18	. . . .	50. 88
	α Virginis	50	20. 6	22. 6	23. 9	33. 4	34. 5	35. 7	36. 8	37. 9	47. 6	48. 9	51. 0	17 35. 72	+ 0. 12	+29. 18	13 18 5. 02	— 15. 67

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 19, 8. 6	+ 29. 22	— 0. 008	+ 0. 100

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 21	κ Cancri	1	40.6	42.5	43.9	53.4	54.6	55.8	57.0	58.0	7.8	9.0	11.0	59 55.78	+ 0.09	+28.84	9 0 24.71	— 15.01
Y.	Lacaille 3700 . .	2	. .	. .	. .	33.7	35.3	37.5	54.9	57.6	59.0	0.5	2.0	3 50.06	— 29.65	28.84	9 3 49.25	12.06
	O. Arg. S. 9488 .	3	5.7	7.9	9.4	20.2	21.2	22.6	23.9	25.1	36.0	37.3	39.6	7 22.63	+ 0.16	28.64	9 7 51.63	12.26
	O. Arg. S. 9522 .	4	18.4	20.6	21.8	32.6	33.6	35.0	36 3	37.5	48.3	49.8	52.0	9 35.08	0.15	28.84	9 10 4.07	12.39
	* — 35° 7′ . . .	5	28.8	31.2	32.7	44.4	45.6	47.0	48.6	49.8	1.5	3.0	5.5	11 47.10	0.18	28.84	9 12 16.12	11.69
	* — 28° 39′ . .	6	49.4	51.6	53.0	3.8	4.9	6.4	7.7	8.9	19.8	21.2	23.6	14 6.39	0.16	28.84	9 14 35.39	12.30
	* — 34° 56′ . .	7	29.8	32.2	33.8	45.3	46.4	48.0	49.5	50.7	2.6	4.0	6.5	16 45.07	0.18	28.84	9 17 17.09	11.82
	* — 27° 47′ . .	8	58.9	1.1	2.5	13.2	14.2	15.6	16.9	18.1	29.0	30.4	32.6	20 15.68	+ 0.16	28.84	9 20 44.68	12.48
	β Cephei, S. P. . .	9	8.3	2.9	58.9	31.4	28.0	25.3	21.3	18.0	50.4	46.7	40.6	26 24.71	— 0.07	28.84	9 26 53.48	. .
	* + 25° 4′ . . .	10	. .	. .	. .	. .	. .	. .	59.8	2.7	4.0	5.5	7.0	32 3.80	— 37.00	28.84	9 31 55.64	16.00
	* — 37° 53′ . .	11	15.6	18.2	19.8	31.7	33.0	34.5	36.0	37.3	49.8	51.1	53.7	35 35.61	+ 0.19	28.84	9 36 4.64	11.98
	Lacaille 3996 . .	12	56.6	59.2	0.6	13.1	14.4	15.7	17.2	18.5	30.9	32.5	35.1	38 15.80	0.19	28.84	9 38 44.83	11.96
	* — 29° 39′ . .	13	27.5	29.6	31.0	42.0	43.0	44.5	45.9	47.0	58.2	59.5	1.8	40 44.55	0.16	28.84	9 41 13.55	12.71
	O. Arg. S. 10131 .	14	49.1	51.6	52.9	3.8	4.9	6.4	7.7	8.9	20.0	21.6	23.8	42 6.43	0.16	28.84	9 42 35.43	12.74
	* — 37° 33′ . .	15	10.8	13.3	15.0	26.9	28.2	29.8	31 2	32.5	44.7	46.2	48.8	45 29.76	0.19	28.84	9 45 58.79	12.25
	* — 37° 46′ . .	16	55.7	58.3	59.8	11.7	13.0	14.6	16.1	17.5	29.7	31.0	33.5	47 14.63	0.19	28.84	9 47 43.66	12.28
	π Leonis	17	19.6	21.6	23.0	32.4	33.4	34.6	35.9	37.0	46.8	47.9	49.9	52 34.74	0.09	28.84	9 53 3.67	14.93
	* — 29° 36′ . .	18	12.7	15.0	16.3	27.4	28.4	29.8	31.1	32.4	43.5	44.9	47.2	56 29.88	+ 0.16	28.84	9 56 58.88	13.02
	* — 29° 35′ . .	19	55.3	. .	57.7	59.0	0.2	. .	33.6	35.3	36.7	38.1	39.8	57 19.52	— 21.47	28.84	9 57 26.89	13.03
	* + 12° 56′ . .	20	23.8	25.6	26.8	36.5	37.6	38.9	40.0	41.0	50.9	52.1	54.2	1 38.85	+ 0.09	28.84	10 2 7.78	15.17
	* + 12° 57′ . .	21	11.4	13.5	14.7	24.6	25.6	26.7	28.0	29.1	39.0	40.3	42.3	2 26.84	0.09	28.84	10 2 55.77	15.17
	Weisse 75 . . .	22	25.6	27.5	28.8	38.6	39.7	40.8	42.0	43.0	53.0	54.1	56.3	5 40.85	0.09	28.84	10 6 9.78	15.17
	Weisse 115 . . .	23	12.2	14.3	15.5	25.2	26.2	27.4	28.6	29.7	39.6	40.8	43.0	7 27.50	0.09	28.84	10 7 56.43	15.15
	Weisse 209 . . .	24	30.2	32.3	33.6	43.4	44.4	45.6	46.7	47.9	57.7	58.8	1.0	12 45.60	0.09	28.84	10 13 14.53	15.12
	Weisse 240 . . .	25	3.3	5.4	6.6	26.4	27.3	28.6	29.8	30.8	40.8	41.9	44.0	14 28.63	0.09	28.84	10 14 57.56	15.12
	Weisse 276 . . .	26	25.2	27.3	28.5	38.2	39.2	40.4	41.5	42.7	52.6	53.8	55.8	16 40.47	0.09	28.84	10 17 9.40	15.09
	O. Arg. S. 10634 .	27	12.2	14.2	15.7	26.9	28.0	29.3	30.6	31.9	43.0	44.5	46.7	20 29.36	0.16	28.84	10 20 58.36	13.45
	O. Arg. S. 10684 .	28	40.1	42.3	43.7	54.1	55.2	56.6	57.8	59.0	9.7	10.9	13.0	23 56.58	0.15	28.84	10 24 25.57	13.76
	* — 35° 31′ . .	29	36.6	39.2	40.6	52.3	53.4	54.8	56.4	57.8	9.4	10.9	13.5	26 54.99	0.18	28.84	10 27 24.01	13.37
	* — 35° 39′ . .	30	18.8	21.3	22.9	34.6	35.7	37.3	38.7	40.0	52.0	53.4	55.9	29 37.33	0.18	28.84	10 30 6.35	13.42
	Lacaille 4387 . .	31	21.6	24.0	25.6	37.5	38.7	40.1	41.6	43.0	54.8	56.2	58.6	32 40.15	0.18	28.84	10 33 9.17	13.49
	O. Arg. S. 10849 .	32	14.3	16.6	17.9	28.4	29.4	30.7	32.0	33.2	43.6	44.9	47.1	37 30.74	+ 0.14	28.84	10 37 59.72	14.02
	Lacaille 4450 . .	33	. .	. .	. .	15.2	16.4	18.0	19.6	20.9	33.8	35.0	37.9	39 24.60	— 6.29	28.84	10 39 47.15	13.49
	* — 37° 35′ . .	34	11.8	14.3	15.4	27.7	28.9	30.5	32.0	33.3	45.5	47.0	49.4	42 30.53	+ 0.19	28.84	10 42 59.56	13.67
	* — 23° 36′ . .	35	30.0	32.2	33.5	44.0	45.2	46.4	47.7	48.9	59.4	0.6	2.8	46 46.43	0.14	28.84	10 47 15.41	14.16
	O. Arg. S. 11003 .	36	42.0	44.3	45.5	56.8	58.0	59.5	0.8	1.9	13.0	14.5	16.8	49 59.37	0.16	28.84	10 50 28.37	14.04
	* — 35° 46′ . .	37	4.0	6.3	8.0	19.7	20.9	22.4	23.9	25.2	37.0	38.6	41.2	52 22.47	0.18	28.84	10 52 51.49	13.97
	O. Arg. S. 11069 .	38	6.5	8.7	10.1	20.6	21.8	23.0	24.4	25.5	36.4	37.7	40.0	55 23.15	0.15	28.84	10 55 52.14	14.24
	χ Leonis	39	18.5	20.5	21.7	31.3	32.4	33.4	34.6	35.7	45.5	46.6	48.7	57 33.54	0.09	28.84	10 58 2.47	14.89
	Lacaille 4607 . .	40	42.7	45.1	46.6	58.7	0.0	1.7	3.2	4.5	16.7	18.1	20.7	1 1.63	0.19	28.84	11 1 30.66	14.14
	Lacaille 4642 . .	41	58.0	0.3	1.7	12.9	14.1	15.6	16.8	18.0	29.6	30.8	33.1	5 15.54	0.17	28.84	11 5 44.55	14.34
	Iris	42	15.8	17.8	19.0	28.5	29.5	30.7	31.9	32.9	42.6	43.8	45.8	9 30.75	0.10	28.84	11 9 59.69	.
	O. Arg. S. 11320 .	43	2.7	5.0	6.2	16.8	17.9	19.1	20.4	21.6	32.3	33.8	35.9	13 19.25	0.15	28.84	11 13 48.24	14.56
	Lacaille 4725 . .	44	41.2	43.6	45.0	55.8	56.8	58.2	59.6	0.7	11.7	13.0	15.4	15 58.28	0.16	28.84	11 16 27.28	14.57
	O. Arg. S. 11374 .	45	22.6	24.8	26.0	36.7	37.8	39.0	40.5	41.6	52.3	53.6	55.9	18 39.16	0.15	28.84	11 19 8.15	14.66
	Lacaille 4758 . .	46	10.7	13.1	14.4	25.0	26.1	27.4	28.6	30.0	40.8	42.1	44.6	22 27.53	0.15	28.84	11 22 56.52	14.71
	Lacaille 4777 . .	47	28.5	31.0	32.5	44.2	45.3	46.8	48.4	49.5	1.4	2.7	5.3	25 46.87	0.18	28.84	11 25 15.89	14.77
	O. Arg. S. 11491 .	48	34.1	36.4	37.7	48.7	49.8	51.2	52.6	53.8	4.9	6.2	8.5	27 51.26	+ 0.16	28.84	11 28 20.26	14.81
	O. Arg. S. 11531 .	49	23.4	24.8	26.1	27.5	29.9	. .	36.3	38.8	40.1	41.6	43.2	31 3.17	— 0.11	28.84	11 31 31.90	14.86
	* — 24° 50′ . .	50	47.9	50.1	51.5	2.0	3.0	4.3	5.6	6.8	17.4	18.6	20.8	31 43.60	+ 0.15	+28.84	11 31 33.35	— 14.86

April 21, 9h. to 15h. n. = $-\overset{s.}{0.08}$.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 21, 12.1	+ 28.84	0.000	+ 0.100

DATE.	OBJECT	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. April 21 Y.	Lacaille 4857 . .	1	. .	. .	. .	44.8	46.2	48.5	6.4	9.1	10.5	12.0	13.7	35 1.40	− 30.42	+28.84	11 34 59.82	− 14.95
	* — 36° 51′ . .	2	57.8	0.3	1.8	13.7	15.0	16.4	17.8	19.4	31.3	32.9	35.3	38 16.52	+ 0.19	28.84	11 38 45.55	15.08
	β Leonis	3	38.6	39.7	40.9	42.2	43.3	. .	12.3	14.8	16.0	17.4	18.6	41 58.38	− 17.34	28.84	11 42 9.88	14.89
	* — 36° 59′ . .	4	. .	42.7	44.1	56.1	57.3	58.8	0.3	1.6	13.7	15.2	. .	44 58.87	+ 0.20	28.84	11 45 27.91	15.24
	* — 35° 13′ . .	5	. .	. .	. .	6.0	7.5	9.0	28.4	31.5	33.0	34.6	36.2	47 23.28	− 31.67	28.84	11 47 20.45	15.26
	O. Arg. S. 11831 .	6	21.2	23.3	24.8	35.3	36.4	37.8	39.1	40.2	50.9	52.2	54.5	53 37.79	+ 0.15	28.84	11 54 6.78	15.24
	Lalande 23198 . .	7	15.9	18.1	19.6	30.0	31.2	32.5	33.7	35.0	45.5	46.8	49.0	16 32.48	+ 0.15	28.84	12 17 1.47	15.60
	Lacaille 5143 . .	8	. .	. .	. .	41.4	42.4	43.8	45.0	46.3	56.9	58.3	0.6	17 49.34	− 5.33	26.84	12 18 12.85	15.62
	* — 35° 10′ . .	9	42.4	44.8	46.3	58.0	59.2	0.6	2.0	3.4	15.1	16.6	19.1	21 0.68	+ 0.18	28.84	12 21 29.70	16.02
	* — 35° 4′ . . .	10	56.6	58.9	0.5	12.0	13.3	14.7	16.3	17.5	29.4	30.7	33.2	22 14.83	+ 0.18	28.84	12 22 43.85	16.04
	* — 32° 54′ . .	11	. .	. .	. .	. .	. .	. .	33.1	36.0	37.5	38.9	40.5	24 37.20	− 39.91	28.84	12 24 26.13	16.00
	* — 32° 30′ . .	12	46.5	48.9	50.4	1.7	2.8	4.3	5.6	7.0	18.2	19.7	22.1	26 4.29	+ 0.17	28.84	12 26 33.30	16.02
	Lacaille 5220 . .	13	55.7	58.1	59.6	10.7	11.9	13.3	14.7	15.9	27.2	28.6	30.9	29 13.33	0.17	28.64	12 29 42.34	16.03
	O. Arg. S. 12377 .	14	3.3	5.5	6.9	17.7	18.7	20.1	21.5	22.7	33.6	34.9	37.1	36 20.18	0.16	28.84	12 36 49.18	15.99
	Lacaille 5284 . .	15	15.2	17.5	18.9	30.1	31.4	32.7	34.1	35.3	46.6	48.0	50.2	40 32.73	+ 0.17	28.84	12 41 1.74	16.26
	B. A. C. 4345 . .	16	25.9	27.7	29.4	30.9	33.8	. .	51.2	54.2	55.9	57.5	59.2	49 12.57	− 0.12	28.84	12 49 41.29	14.15
	α Canum Venaticorum	17	54.3	56.8	58.5	10.7	12.0	13.6	15.1	16.4	28.8	30.4	33.0	49 13.62	+ 0.06	28.84	12 49 42.52	14.06
	Saturn I . . .	18	27.2	28.4	29.8	31.0	33.3	. .	33.4	35.8	37.0	38.3	39.6	53 3.38	− 0.14	28.84	12 53 32.08	. .
	Saturn II . . .	19	49.4	51.4	52.7	2.2	3.2	4.4	5.5	6.5	16.2	17.4	19.5	53 4.40	+ 0.10	28.84	12 53 33.34	. .
	* — 34° 22′ . .	20	31.8	34.4	35.8	47.4	48.6	50.0	51.5	52.7	4.4	5.8	8.4	57 50.07	+ 0.18	28.84	12 58 19.09	16.74
	Polaris, S. P. . .	21	31.0	14.0	22.5	59.0	16.0	. .	. .	. .	. .	. .	. .	14 16.50	− 5 50.45	28.84	13 8 54.89	. .
	h Virginis	22	7.4	9.4	10.7	20.3	21.3	22.5	23.7	24.7	34.4	35.6	37.8	25 22.53	+ 0.12	28.84	13 25 51.49	15.68
	* — 26° 33′ . .	23	27.2	29.4	30.9	41.5	42.6	43.8	45.3	46.4	57.2	58.5	0.8	30 43.96	0.15	28.84	13 31 12.95	16.74
	* — 37° 41′ . .	24	19.3	21.7	23.3	35.4	36.5	37.9	39.5	40.9	52.5	54.0	56.9	34 37.99	0.19	28.84	13 35 7.02	17.74
	Lacaille 5663 . .	25	29.7	31.9	33.2	43.7	44.8	46.0	47.4	48.6	59.2	0.6	2.8	36 46.17	+ 0.15	28.84	13 37 15.16	16.69
	O. Arg. S. 13167 .	26	7.3	8.8	10.0	11.4	14.1	. .	21.9	24.6	26.0	27.5	28.9	41 48.05	− 0.11	28.84	13 42 16.78	16.96
	O. Arg. S. 13169 .	27	37.5	39.5	41.0	51.7	52.7	54.0	55.5	56.5	7.6	8.8	11.2	41 54.18	+ 0.16	28.84	13 42 23.18	16.96
	O. Arg. S. 13243 .	28	23.8	26.3	27.5	38.5	39.6	41.0	42.4	43.6	54.9	56.0	58.5	47 41.10	0.16	28.84	13 48 10.10	17.23
	Lacaille 5773 . .	29	36.7	38.8	40.2	50.8	51.9	53.2	54.5	55.7	6.5	7.7	10.0	49 53.27	0.15	28.84	13 50 22.26	16.88
	* — 38° 35′ . .	30	22.8	25.4	27.1	39.0	40.4	41.9	43.4	45.0	57.2	58.7	1.1	52 42.00	0.19	28.84	13 53 11.03	18.18
	* — 37° 7′ . . .	31	11.3	13.6	15.3	27.3	28.4	30.0	31.5	32.8	44.8	46.3	48.8	55 30.01	+ 0.19	28.84	13 55 59.04	18.07
	Lacaille 5812 . .	32	. .	. .	. .	. .	. .	. .	1.2	4.0	5.8	7.3	9.0	58 5.46	− 41.98	28.84	13 57 52.32	18.10
	* — 32° 24′ . .	33	40.5	42.9	44.5	55.8	56.9	58.4	59.8	1.0	12.3	13.8	16.1	59 58.36	+ 0.17	28.84	14 0 27.37	17.64
	Moon I	34	15.7	16.8	19.2	29.2	30.2	31.5	32.7	33.9	44.1	45.3	47.4	4 31.45	0.13	28.84	14 5 0.42	. .
	Moon II	35	27.3	29.4	30.7	40.7	41.7	43.0	44.2	45.4	55.5	56.9	59.0	6 43.07	0.13	28.84	14 7 12.04	. .
	λ Virginis	36	4.2	6.2	7.4	17.2	18.2	19.5	20.7	21.7	31.6	32.8	34.9	11 19.49	0.12	28.84	14 11 48.45	16.12
	2 Libræ	37	25.6	27.7	28.9	38.6	39.6	41.8	42.0	43.0	52.9	54.2	56.3	15 41.87	+ 0.12	28.84	14 16 10.83	16.02
	O. Arg. S. 13626 .	38	20.4	21.9	23.4	24.8	27.4	. .	34.9	37.7	39.1	40.5	42.0	19 1.21	− 0.12	28.84	14 19 29.93	17.38
	O. Arg. S. 13629 .	39	52.7	55.2	56.7	7.3	8.4	9.9	11.1	12.4	23.1	24.5	26.4	19 9.79	+ 0.15	28.84	14 19 38.78	17.36
	O. Arg. S. 13647 .	40	58.3	0.3	2.0	12.6	13.7	15.0	16.3	17.6	28.4	29.7	32.0	20 15.08	0.15	28.84	14 24 15.22	17.39
	O. Arg. S. 13697 .	41	29.5	31.8	33.0	43.7	44.8	46.2	47.5	48.7	59.5	0.8	3.0	23 46.23	0.15	28.84	14 24 15.22	17.42
	ρ Bootis	42	14.5	16.8	18.3	29.5	30.6	31.9	33.1	34.1	45.8	47.1	49.6	25 31.94	+ 0.07	26.84	14 26 0.85	13.09
	O. Arg. S. 13799 .	43	. .	. .	. .	50.2	51.7	53.8	10.8	13.4	14.8	16.3	17.8	32 6.10	− 28.93	28.84	14 32 6.01	17.43
	O. Arg. S. 13847 .	44	45.5	47.6	49.0	59.8	0.9	2.3	3.6	4.7	15.6	16.8	19.3	34 2.28	+ 0.15	28.84	14 34 31.27	17.53
	* — 25° 15′ . .	45	27.1	29.3	30.7	41.1	42.2	43.6	44.8	46.0	56.7	57.9	0.3	36 43.61	0.15	28.84	14 37 12.60	17.35
	56 Hydræ	46	6.7	8.8	10.2	20.6	21.8	23.2	24.4	25.6	36.4	37.7	39.9	39 23.21	0.15	28.84	14 39 52.20	17.40
	α Libræ	47	40.4	42.4	43.6	53.5	54.4	55.7	56.9	58.0	8.0	9.2	11.3	42 55.76	0.13	28.84	14 43 24.73	16.45
R.	α Andromedæ . .	48	36.6	39.0	40.4	51.2	52.3	53.8	55.0	56.2	7.0	8.5	10.7	0 53.70	+ 0.15	28.67	0 1 22.52	13.05
	Venus I	†49	52.6	54.0	55.2	56.4	58.6	. .	59.0	1.4	2.5	3.8	5.2	37 28.87	− 0.14	28.67	0 37 57.40	. .
	Venus II . . .	50	14.2	16.2	17.5	27.0	28.1	29.3	30.5	31.5	41.1	42.4	44.5	37 29.30	+ 0.10	28.67	0 37 58.07	. .
	Polaris	51	. .	. .	. .	47.0	27.0	18.0	5.0	49.0	. .	. .	. .	8 17.20	+ 8.41	+28.67	. . . .	− 51.75

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 21, 12.1	+ 28.84	0.000	+ 0.100

49. Correction for defective illumination of first limb — s. 0.01.

April 21–22, 0h. to 15h. n. = + s. 0.06.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 22	Sun I	1	31.2	33.3	34.6	44.3	45.5	46.7	47.9	49.0	58.8	0.0	2.0	0 46.66	+ 0.12	+28.67	2 1 15.45	. .
R.	Sun II	2	42.2	44.0	45.4	55.1	56.2	57.3	58.7	59.7	9.7	10.9	13.0	2 57.47	0.12	28.67	2 3 26.26	. .
	α Tauri	3	23.5	25.5	27.0	36.9	37.9	39.1	40.3	41.4	51.5	52.7	54.8	27 39.15	0.12	28.68	4 28 7.95	— 14.54
	β Tauri	4	57.1	59.2	0.6	11.4	12.6	13.9	15.3	16.5	27.5	28.8	31.0	17 13.99	0.15	28.69	5 17 42.83	16.22
Y.	δ Orionis	5	20.6	22.5	23.8	33.3	34.3	35.5	56.7	37.8	47.4	48.6	50.6	24 35.55	0.10	28.72	. . . .	13.04
	ε Orionis	6	35.8	37.9	39.1	48.5	49.5	50.7	51.9	53.0	2.6	3.8	5.8	28 50.78	0.10	28.72	. . . .	12.97
	α Orionis	7	5.7	7.6	9.0	18.4	19.5	20.8	22.0	23.0	32.7	33.9	35.9	47 20.77	0.11	28.72	. . . .	13.98
R.	μ Virginis	8	12.9	14.9	16.3	25.5	26.7	28.0	29.2	30.3	40.0	41.0	43.1	35 27.99	0.10	28.72	14 35 56.81	15.64
	α Libræ	†9	40.4	42.6	43.7	53.8	54.8	56.0	57.2	58.2	8.2	9.5	11.6	42 56.00	0.09	28.72	14 43 24.81	16.46
Y.	α Andromedæ . .	10	36.8	39.0	40.5	. .	52.3	53.8	55.1	56.3	7.2	8.6	10.9	0 54.05	0.00	28.49	0 1 22.54	13.07
	Venus I . . .	11	44.0	45.9	47.2	56.7	57.8	59.0	0.1	2.2	10.9	12.1	14.0	41 59.08	+ 0.11	28.49	0 42 27.68	. .
	Venus II . . .	12	23.5	25.0	26.3	27.4	29.8	. .	29.9	32.4	33.7	35.0	36.3	41 59.93	— 0.13	28.49	0 42 28.29	. .
	Polaris	13	8.0	26.0	15.5	41.0	21.0	10.0	58.0	41.0	12.0	59.0	21.0	8 12.05	+ 14.17	28.49	. . . .	— 52.17
23	Sun I	†14	16.4	18.4	19.7	29.4	30.4	31.7	32.9	33.9	43.9	45.2	47.2	4 31.74	0.16	28.48	2 5 0.38	. .
	Sun II	15	27.2	29.1	30.5	40.3	41.2	42.5	43.8	44.8	54.7	55.8	58.0	6 42.54	0.16	28.48	2 7 11.18	. .
	Mercury I . . .	16	59.6	1.3	2.5	3.8	6.3	. .	10.7	13.3	14.6	16.1	17.4	18 38.43	0.05	28.48	3 19 6.96	+ 0.23
		17	22.2	24.4	25.7	35.9	37.0	38.4	39.6	40.6	51.0	52.2	54.4					
	α Tauri	18	23.6	25.8	27.1	37.0	38.0	39.3	40.5	41.6	51.6	52.9	55.0	27 39.31	0.16	28.47	4 28 7.94	— 14.53
	β Tauri	19	57.1	59.4	0.9	11.6	12.8	14.2	15.5	16.7	27.7	29.0	31.3	17 14.20	0.21	28.47	5 17 42.88	16.21
	δ Orionis	20	20.8	22.7	24.0	33.4	34.6	35.7	36.9	37.9	47.6	48.8	50.9	24 35.75	0.10	28.47	5 25 4.32	13.03
	δ Orionis	21	36.0	38.0	39.3	48.7	49.8	50.9	52.1	53.2	2.8	4.0	5.9	28 50.97	0.10	28.47	5 28 19.54	12.96
	O. Arg. S. 10346 .	22	55.4	57.7	59.0	9.9	11.0	12.4	13.6	14.8	25.7	27.0	29.2	58 12.34	+ 0.06	28.44	9 58 40.84	13.14
	O. Arg. S. 10351 .	23	. .	. .	. .	48.5	50.0	52.0	9.3	11.9	13.3	14.8	16.3	59 4.51	— 29.27	28.44	9 59 3.68	13.14
	* — 13° 10′ . .	24	38.7	40.9	42.1	51.8	52.8	54.0	55.3	56.4	6.2	7.4	9.6	2 54.11	+ 0.13	28.44	10 3 22.68	15.16
	Weisse 75 . . .	25	25.9	27.8	29.0	38.8	39.8	41.0	42.3	43.4	53.3	54.5	56.5	5 41.12	0.13	28.44	10 6 9.69	15.14
	Weisse 116 . . .	26	12.8	14.8	16.2	25.8	26.9	28.1	29.4	30.4	40.2	41.5	43.5	7 28.15	0.13	28.44	10 7 56.72	15.12
	γ Leonis (1st *) . .	27	46.0	48.1	49.4	59.5	0.7	1.9	3.2	4.4	14.7	15.9	18.2	12 2.00	+ 0.14	28.44	10 12 30.58	15.60
	γ Leonis (2d *) . .	28	23.8	25.3	26.5	27.8	30.3	. .	34.4	36.9	38.3	39.6	41.2	12 2.41	— 0.11	28.44	10 12 30.74	15.51
	* — 11° 22′ . .	29	29.3	31.4	32.7	42.2	43.2	44.4	45.7	46.7	56.3	57.5	59.6	15 44.45	+ 0.08	28.44	10 16 12.97	14.14
	* — 11° 18′ . .	30	14.1	16.2	17.4	26.9	28.0	29.2	30.4	31.4	41.2	42.3	44.4	17 29.23	0.08	28.44	10 17 57.75	14.16
	Lacaille 4363 . .	31	31.0	33.3	34.8	45.5	46.7	47.9	49.3	50.4	1.4	2.8	5.0	29 48.01	0.06	28.44	10 30 16.51	13.70
	Weisse 618 . . .	32	25.7	27.7	29.0	38.8	39.7	40.9	42.1	43.2	53.0	54.3	56.4	34 40.98	0.12	28.44	10 35 9.54	15.06
	Weisse (2) 776 . .	33	48.9	51.4	52.9	4.7	5.7	7.2	8.8	10.0	22.1	23.9	26.1	38 7.43	0.20	28.44	10 38 36.07	16.17
	l Leonis	34	25.0	27.0	28.3	37.9	38.9	40.2	41.4	42.4	52.3	53.5	55.6	41 40.23	0.12	28.44	10 42 8.79	15.05
	Dorpat 1482 (1st *)	35	23.2	25.3	26.5	36.0	37.0	38.3	39.5	40.5	50.4	51.5	53.5	44 38.34	+ 0.12	28.44	10 45 6.90	14.97
	Dorpat 1482 (2d *)	36	2.6	4.0	5.2	6.4	8.8	. .	9.4	11.9	13.2	14.5	15.8	44 39.18	— 0.12	28.44	10 45 7.50	14.97
	* + 8° 9′	37	. .	. .	. .	. .	. .	. .	29.4	31.9	33.1	34.5	35.7	45 32.92	33.88	28.44	10 45 27.48	14.96
	Dorpat 1487 (1st *)	38	. .	. .	. .	1.5	2.9	5.2	22.0	24.7	26.0	27.4	28.9	48 17.32	28.66	28.44	10 48 17.10	15.54
	O. Arg. S. 11015 .	39	. .	. .	. .	0.4	1.5	3.0	4.3	5.4	16.4	17.7	19.9	51 8.58	— 5.53	28.44	10 51 31.49	14.11
	Lacaille 4567 . .	40	11.5	14.0	15.7	28.3	29.6	31.0	32.6	33.9	46.7	48.3	50.8	55 31.13	+ 0.05	28.44	10 55 59.62	13.91
	Lacaille 4607 .	41	43.3	45.8	47.4	59.4	0.7	2.2	3.7	5.0	17.1	18.5	21.3	1 2.22	0.06	28.44	11 1 30.72	14.11
	(* 124) W. . . .	42	27.1	31.2	33.6	52.3	54.4	56.7	58.8	1.0	19.9	22.1	26.0	4 56.65	0.33	28.44	11 5 25.42	17.41
	O. Arg. N. 11674 .	43	36.5	43.3	47.2	18.5	21.8	26.0	30.1	33.5	5.6	9.6	16.1	12 26.20	+ 0.58	28.44	11 12 55.22	19.58
	Weisse 261 . . .	44	. .	. .	. .	45.4	46.4	47.7	48.8	49.8	59.5	0.6	2.7	15 52.61	— 4.86	28.44	11 16 16.19	14.92
	83 Leonis (1st *) . .	45	11.3	13.3	14.4	24.0	25.0	26.3	27.5	28.6	38.3	39.4	41.3	19 26.31	+ 0.11	28.44	11 19 54.86	14.93
	83 Leonis (2d *) . .	46	51.2	52.6	53.9	55.0	57.4	. .	57.5	0.0	1.3	2.5	3.8	19 27.52	— 0.13	28.44	11 19 55.83	14.93
	(* 123) W. . . .	47	. .	. .	. .	21.2	24.5	28.5	32.5	35.9	. .	. .	. .	22 28.52	+ 0.74	28.44	11 22 57.70	18.79
	O. Arg. N. 11873 .	48	1.8	7.9	11.9	41.9	45.2	48.8	52.7	56.2	26.4	30.3	37.0	26 49.10	0.56	28.44	11 27 18.10	18.33
	β Leonis	49	25.8	27.9	29.1	38.9	40.0	41.3	42.5	43.7	53.6	54.7	56.9	41 41.31	+ 0.13	28.43	11 42 9.87	14.88
	Weisse 895 . . .	50	. .	. .	. .	8.3	9.4	10.6	11.7	12.9	22.5	23.8	25.8	52 15.62	— 4.86	+28.43	11 52 39.19	— 15.01

9. Very faint; through clouds.
14. Fine observation of the sun.

		s.
April 22–23,	0h. to 3h. n. =	+ 0.25.
23,	3h. to 6h.	0.18.
	9h. to 11h.	0.10.
	11h. to 15h.	0.08.
	15h. to 17h.	+ 0.04.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 22, 6.1	+ 28.69	+ 0.004	+ 0.100
23, 10.5	+ 28.44	— 0.005	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 23	O. Arg. N. 12337 .	1	18.9	26.8	31.7	9.4	13.5	18.0	23.0	27.3	5.4	10.4	18.5	59 18.45	+ 0.70	+28.43	11 59 47.58	— 16.63
Y.	O. Arg. S. 12170 .	2	36.6	38.8	40.1	51.0	52.1	53.4	54.6	56.0	6.8	8.2	10.4	19 53.45	0.07	28.43	12 20 21.95	15.73
	* — 32° 54′ . .	3	39.9	42.1	43.6	55.0	56.0	57.6	59.1	0.3	11.8	13.1	15.5	23 57.64	+ 0.07	28.43	12 24 26.14	15.98
	Lacaille 5220 . .	4	. .	. .	. .	11.0	12.4	13.8	15.0	16.3	27.6	29.2	31.4	29 19.59	— 5.74	28.43	12 29 42.28	16.02
	O. Arg. S. 12377 .	5	3.8	6.0	7.4	18.2	19.3	20.6	22.0	23.1	34.0	35.4	37.7	36 20.68	+ 0.07	28.43	12 36 49.18	15.99
	Lacaille 5278 . .	6	. .	. .	. .	58.4	59.6	0.9	2.3	3.6	15.2	16.4	18.9	39 6.91	— 5.81	28.43	12 39 29.53	16.27
	O. Arg. S. 12460 .	7	12.3	14.4	15.7	26.2	27.2	28.6	29.8	30.9	41.8	43.0	45.4	42 28.66	+ 0.07	28.43	12 42 57.16	16.02
	B. A. C. 4345 . .	8	26.2	28.0	29.5	31.1	34.2	. .	51.6	54.5	56.2	57.8	59.5	49 12.86	— 0.12	28.43	12 49 41.17	14.14
	α Canum Venaticorum	9	54.6	57.3	58.8	11.0	12.3	13.9	15.4	16.7	29.0	30.6	33.2	49 13.89	+ 0.19	28.43	12 49 42.51	14.05
	Saturn I . . .	10	56.5	57.8	59.0	0.2	2.5	. .	2.7	5.0	6.1	7.5	8.8	52 32.61	— 0.14	28.43	12 53 0.90	. .
	Saturn II . . .	11	18.7	20.6	21.8	31.3	32.3	33.5	34.7	35.8	45.5	46.6	48.7	52 33.59	+ 0.10	28.43	12 53 2.12	. .
	* — 34° 20′ . .	†12	32.3	34.6	36.3	47.9	49.0	50.2	51.7	53.1	4.9	6.3	8.8	57 50.46	+ 0.07	28.43	12 58 18.96	16.74
	Polaris, S. P. . .	13	. .	. .	. .	4.5	24.5	36.0	48.0	4.0	. .	. .	. .	8 35.40	— 9.22	28.43	. . . .	. .
	α Virginis	14	21.3	23.4	24.5	34.3	35.2	36.5	37.7	38.8	48.6	49.8	51.8	17 36.54	+ 0.09	28.43	13 18 5.06	15.68
	O. Arg. S. 12908 .	15	21.3	23.5	24.7	35.0	36.1	37.4	38.7	39.9	50.4	51.7	53.9	22 37.51	0.07	28.43	13 23 6.01	16.40
	ζ Virginis	16	5.4	7.3	8.6	18.0	19.2	20.4	21.5	22.5	32.2	33.3	35.3	37 20.34	0.10	28.42	13 27 48.86	15.15
	O. Arg. S. 14624 .	17	33.9	36.1	37.5	47.7	48.8	50.0	51.3	52.4	2.9	4.0	6.3	23 50.08	0.09	28.42	15 24 18.59	17.30
	γ Libræ	18	14.6	16.7	17.9	27.7	28.7	30.0	31.2	32.3	42.3	43.4	45.6	27 30.04	0.09	28.41	15 27 58.54	16.56
	O. Arg. S. 14710 .	19	18.2	20.3	21.7	32.6	33.6	35.0	36.3	37.5	48.4	49.7	52.0	29 35.03	0.09	28.41	15 30 3.53	18.06
	κ Libræ	20	25.8	27.9	29.1	39.2	40.3	41.6	42.8	44.0	54.2	55.3	57.6	33 41.62	0.09	28.41	15 34 10.12	17.09
	α Serpentis . . .	21	53.6	55.5	56.8	6.4	7.3	8.6	9.8	10.9	20.5	21.7	23.9	37 8.64	0.10	28.41	15 37 37.15	14.64
	O. Arg. S. 14925 .	22	41.6	43.9	45.3	56.0	57.0	58.3	59.5	0.8	11.5	12.8	15.0	41 58.34	0.09	28.41	15 42 26.84	17.90
	λ Libræ	23	45.5	47.6	48.9	59.0	0.0	1.3	2.6	3.7	13.9	15.2	17.4	45 1.37	0.09	28.41	15 45 29.87	17.18
	O. Arg. S. 15023 .	24	11.3	13.5	14.8	25.4	26.4	27.9	29.2	30.4	41.0	42.3	44.5	47 27.88	0.09	28.41	15 47 56.38	17.88
	π Scorpii	25	56.0	58.2	59.5	10.2	11.3	12.6	13.9	15.0	25.8	27.0	29.3	50 12.62	0.09	28.41	15 50 41.12	17.91
	δ Scorpii	26	36.5	38.6	39.9	50.2	51.5	52.5	53.8	54.9	5.3	6.7	8.8	51 52.58	0.09	28.41	15 52 21.08	17.48
	β Scorpii	27	50.7	52.9	54.2	4.4	5.4	6.6	7.9	9.0	19.3	20.5	22.6	57 6.68	0.09	28.41	15 57 35.18	17.18
	Moon II . . .	28	30.8	33.0	34.4	44.7	45.8	47.0	48.5	49.6	0.0	1.3	3.6	58 47.15	0.09	28.41	15 59 15.65	. .
	c^2 Scorpii	29	13.8	16.1	17.6	28.2	29.3	30.6	32.0	33.3	44.0	45.4	47.7	3 30.73	0.09	28.41	16 3 59.23	18.90
	O. Arg. S. 15466 .	30	16.8	19.0	20.3	30.5	31.6	32.9	34.0	35.2	45.6	46.7	48.9	8 32.86	0.09	28.41	16 9 1.36	17.37
	σ Scorpii	31	13.9	16.2	17.3	27.8	28.9	30.2	31.6	32.8	43.4	44.8	46.9	12 30.35	0.09	28.41	16 12 58.85	17.92
	O. Arg. S. 15590 .	32	27.6	29.8	31.0	41.1	42.2	43.5	44.7	45.8	56.0	57.2	59.6	15 43.50	0.09	28.41	16 16 12.00	17.24
	α Scorpii	33	22.6	24.9	26.1	36.7	37.8	39.2	40.4	41.6	52.5	53.7	55.9	20 39.22	0.09	28.41	16 21 7.72	18.04
25	Sun I	34	47.8	50.0	51.3	1.1	2.2	3.3	4.6	5.6	15.5	16.5	18.7	12 3.33	0.11	27.97	2 12 31.41	. .
R.	Sun II	†35	59.2	1.3	2.5	12.3	13.2	14.6	15.9	17.0	26.8	27.9	30.0	14 14.61	0.11	27.97	2 14 42.69	. .
	β Tauri	36	57.6	0.0	1.3	12.2	13.3	14.6	16.0	17.2	28.3	29.6	32.1	17 14.75	0.11	27.97	. . . .	16.19
	O. Arg. S. 11796 .	37	29.5	31.7	33.0	43.8	44.9	46.2	47.6	48.7	59.6	0.8	3.0	50 46.25	0.14	27.97	11 51 14.36	15.18
	ο Virginis	†38	36.4	38.3	39.5	49.3	50.3	51.5	52.6	53.8	3.4	4.6	6.7	57 51.49	+ 0.11	27.97	. . . .	14.91
Y.	α Andromedæ . .	39	37.4	39.8	41.2	. .	53.2	54.5	55.8	57.0	8.0	9.3	11.5	0 54.77	— 0.17	27.98	0 1 22.58	13.13
26	Sun II	40	45.7	47.7	49.0	58.7	59.7	1.0	2.3	3.4	13.2	14.5	16.6	18 1.07	+ 0.09	27.97	2 18 29.13	65.67
	η Tauri	41	. .	. .	. .	. .	. .	. .	29.9	32.6	33.9	35.3	36.8	39 33.70	— 36.66	27.97	3 39 25.01	14.94
	O. Arg. S. 10346 .	42	56.0	58.2	59.5	10.3	11.5	12.7	14.0	15.3	26.2	27.5	29.8	58 12.82	+ 0 19	27.95	9 58 40.96	13.09
	O. Arg. S. 10351 .	43	. .	. .	. .	33.0	34.3	35.6	36.9	38.1	49.0	50.3	52.6	58 41.22	— 5.40	27.95	9 59 3.77	13.10
	O. Arg. S. 10387 .	44	. .	. .	. .	6.2	7.4	8.6	9.9	11.1	21.6	22.8	25.0	1 14.08	— 5.23	27.95	10 1 36.80	13.36
	Lacaille 4186 . .	45	20.6	23.3	25.0	37.5	38.7	40.3	42.0	43.3	56.0	57.5	0.3	5 40.41	+ 0.25	27.95	10 6 8.61	12.48
	* — 38° 39′ . .	46	37.3	40.0	41.6	53.9	55.0	56.5	58.2	59.4	11.7	13.1	15.8	7 56.59	0.24	27.95	10 8 24.78	12.65
	* — 38° 36′ . .	47	2.7	5.2	6.8	19.0	20.2	21.7	23.4	24.6	37.0	38.5	41.0	9 21.83	+ 0.24	27.95	10 9 50.02	12.69
	γ Leonis . . .	48	. .	. .	. .	14.9	16.4	18.6	34.8	37.4	38.7	40.0	41.4	12 30.28	— 27.71	27.95	10 12 30.52	15.56
	* — 35° 32′ . .	49	14.5	17.0	18.4	30.2	31.4	32.8	34.4	35.6	47.5	48.8	50.3	15 32.81	+ 0.22	27.95	10 16 0.98	13.02
	* — 35° 39′ . .	50	25.5	27.8	29.4	41.1	42.3	43.7	45.2	46.5	58.3	59.8	2.0	21 43.78	+ 0.22	+27.95	10 22 11.95	— 13.17

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 25, 8.6	+ 27.97	0.000	+ 0.110
26, 10.5	+ 27.95	— 0.003	. .

12. Faint.
35. Both limbs badly defined.
38. Very cloudy.

April 25–26, 0h. to 4h. n. = — 0.08.
26, 9h. to 11h. — 0.12.

April 23, 16h. 30m. Image 0.00. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 26	O. Arg. S. 10684 .	1	40.8	43.2	44.5	55.0	56.1	57.5	58.7	59.9	10.5	11.6	13.8	23 57.43	+ 0.18	+27.95	10 24 25.56	− 13.69
Y.	* — 35° 40′ . .	2	39.7	42.0	43.6	55.3	56.5	58.0	59.5	0.9	. .	. .	. .	28 51.94	6.36	27.95	10 29 26.25	13.33
	Lacaille 4387 . .	3	22.3	24.8	26.4	38.4	39.5	40.8	42.4	43.6	55.7	57.0	59.6	32 40.95	0.22	27.95	10 33 9.12	13.41
	* — 35° 39′ . .	4	19.6	22.1	23.6	35.3	36.5	38.0	39.4	40.6	52.6	53.9	56.6	29 38.02	0.22	27.95	10 30 6.19	13.35
	* — 35° 49′ . .	5	2.0	4.4	5.7	17.5	18.6	20.0	21.6	22.8	. .	. .	. .	36 14.08	6.37	27.95	10 36 48.40	13.51
	B. A. C. 3755 . .	6	39.1	41.5	43.0	54.8	55.9	57.6	58.9	0.3	12.4	13.8	16.2	49 57.59	+ 0.23	27.95	10 50 25.77	13.82
	O. Arg. S. 11020 .	7	. .	. .	. .	. .	. .	. .	6.2	8.8	10.2	11.6	13.0	52 9.96	− 36.51	27.95	10 52 1.40	14.18
	Lacaille 4558 . .	8	51.9	54.7	56.3	8.8	10.0	11.6	13.3	14.5	27.0	28.5	31.2	54 11.62	+ 0.24	27.95	10 54 39.81	13.84
	Lacaille 4576 . .	9	4.0	6.5	8.0	20.5	21.8	23.4	24.8	26.3	38.8	40.3	42.8	57 23.38	0.24	27.95	10 57 51.57	13.94
	O. Arg. S. 11154 .	10	11.0	13.2	14.6	25.5	26.5	27.9	29.2	30.5	41.4	42.6	45.0	0 27.95	0.21	27.95	11 0 56.11	14.25
	δ Leonis	11	10.7	12.9	14.2	24.4	25.4	26.7	28.0	29.0	39.4	40.8	42.9	6 26.76	0.06	27.95	11 6 54.77	15.31
	O. Arg. S. 11267 .	12	34.4	36.6	38.0	49.0	50.3	51.6	52.8	54.1	5.4	6.7	9.0	8 51.63	0.22	27.95	11 9 19.80	14.36
	δ Crateris	13	51.7	53.8	55.0	4.7	5.8	7.1	8.4	9.5	19.2	20.5	22.5	12 7.11	+ 0.15	27.95	11 12 35.21	14.60
	Weisse 253 . . .	14	. .	. .	. .	28.2	29.4	31.5	47.0	49.5	50.8	52.0	53.3	14 42.71	− 26.43	27.95	11 14 44.23	14.68
	Weisse 284 . . .	15	5.4	7.4	8.7	18.0	19.1	20.3	21.4	22.5	32.3	33.4	35.4	17 20.35	+ 0.10	27.95	11 17 48.40	− 14.88
	B. A. C. 8213, S. P.	16	. .	. .	. .	50.0	34.5	12.5	53.0	36.0	. .	. .	. .	26 13.20	+ 0.04	27.95	23 26 41.19	+ 8.19
	O. Arg. S. 11656 .	17	. .	. .	. .	. .	. .	. .	36.7	39.5	40.7	42.2	43.5	40 40.52	− 37.19	27.95	11 40 31.28	− 14.97
	* — 36° 57′ . .	18	. .	. .	. .	35.3	36.5	39.1	58.0	1.2	2.7	4.3	5.9	43 52.88	− 32.29	27.95	11 43 48.54	12.01
	* — 36° 59′ . .	19	40.8	43.3	45.0	56.9	58.0	59.4	0.9	2.3	14.4	15.7	18.5	44 59.56	+ 0.26	27.95	11 45 27.77	15.20
	B. A. C. 4034 . .	20	16.7	19.2	20.9	32.9	34.1	36.0	37.4	38.6	51.3	52.7	55.3	48 35.92	+ 0.27	27.95	11 49 4.14	15.30
	B. A. C. 4070 . .	21	. .	. .	. .	59.2	14.7	35.2	53.0	10.0	. .	. .	. .	57 34.42	− 0.03	27.95	11 58 2.34	24.22
	ε Corvi . . .	22	26.8	28.9	30.3	40.5	41.6	42.8	44.1	45.3	55.7	56.8	59.2	2 42.91	+ 0.18	27.95	12 3 11.04	15.29
	O. Arg. S. 11995 .	23	9.0	11.4	12.8	23.8	24.9	26.3	27.7	28.9	40.1	41.5	43.7	5 26.38	+ 0.22	27.95	12 5 54.55	15.52
	* — 25° 47′ . .	24	52.2	53.9	55.2	56.5	59.1	. .	5.9	8.6	9.8	11.4	12.8	8 32.54	− 0.06	27.95	12 9 0.43	15.46
	* — 25° 49′ . .	†25	18.9	20.9	22.4	33.0	34.1	35.4	36.8	37.9	48.7	49.9	52.0	8 35.46	+ 0.20	27.95	12 9 3.61	15.46
	O. Arg. S. 12082 .	26	9.7	11.9	13.3	23.9	24.9	26.3	27.7	28.8	39.5	40.6	43.0	12 26.33	0.20	27.95	12 12 54.48	15.53
	O. Arg. S. 12101 .	27	29.9	32.0	33.4	43.8	45.0	46.5	47.9	48.9	59.6	0.9	3.2	13 46.46	+ 0.20	27.94	12 14 14.60	15.55
	O. Arg. S. 12116 .	28	. .	. .	. .	. .	. .	. .	29.9	32.7	34.0	35.5	37.0	15 33.82	− 36.49	27.94	12 15 25.29	15.50
	O. Arg. S. 12134 .	29	20.8	23.0	24.3	34.7	35.8	37.0	38.4	39.4	50.0	51.2	53.5	16 37.10	+ 0.19	27.94	12 17 5.23	15.53
	O. Arg. S. 12170 .	30	36.8	38.9	40.4	51.2	52.3	53.6	55.0	56.3	7.1	8.5	10.8	19 53.72	0.21	27.94	12 20 21.87	15.72
	* — 32° 54′ . .	31	40.1	42.2	43.9	55.1	56.4	57.8	59.2	0.5	12.1	13.4	15.8	23 57.86	0.24	27.94	12 24 26.04	15.97
	β Corvi	32	33.6	35.8	37.0	47.5	48.6	49.8	51.0	52.1	2.7	3.9	6.3	26 49.85	0.18	27.94	12 27 17.97	15.64
	Lacaille 5220 . .	33	56.6	59.0	0.4	11.6	12.8	14.0	15.4	16.7	25.9	29.4	31.9	29 14.06	+ 0.23	27.94	12 29 42.23	16.02
	O. Arg. S. 12332 .	34	. .	. .	. .	19.6	20.8	23.0	40.0	42.7	43.9	45.4	46.8	33 35.28	− 28.76	27.94	12 33 34.46	15.87
	O. Arg. S. 12523 .	35	43.1	45.1	46.6	57.3	58.6	59.8	. .	. .	13.0	14.3	16.4	47 59.36	+ 0.61	27.94	12 48 27.91	16.10
	O. Arg. S. 12529 .	36	33.9	36.1	37.4	48.1	49.3	50.7	51.9	53.0	. .	. .	. .	48 45.05	+ 5.78	27.94	12 49 18.77	16.14
	O. Arg. S. 12533 .	37	. .	. .	. .	14.7	16.0	18.2	35.4	37.9	39.4	40.7	42.3	49 30.58	− 28.91	27.94	12 49 29.61	16.14
	Saturn I . . .	38	32.3	34.3	35.5	45.0	46.0	47.2	48.5	49.5	59.2	0.2	2.2	51 47.26	+ 0.12	27.94	12 52 15.32	. .
	Saturn II . . .	39	12.5	14.0	15.2	16.2	18.5	. .	18.6	21.0	22.3	23.6	24.9	51 48.68	− 0.12	27.94	12 52 16.50	. .
	Weisse 909 . . .	40	55.7	57.7	59.0	8.5	9.5	10.7	11.8	12.9	22.6	23.8	25.8	53 10.73	+ 0.12	27.94	12 53 38.79	15.26
	* — 34° 22′ . .	41	32.7	35.2	36.6	48.2	49.4	50.9	52.2	53.6	5.3	6.5	8.9	57 50.86	0.24	27.94	12 58 19.04	16.74
	θ Virginis	42	14.5	16.6	17.8	27.3	28.3	29.6	30.7	31.8	41.4	42.5	44.7	2 29.56	0.12	27.94	12 2 57.62	15.36
	Polaris, S. P. . .	43	. .	. .	. .	58.0	17.0	28.0	39.0	57.0	. .	. .	. .	8 27.80	0.10	27.94	. . . .	53.65
	Weisse 312 . . .	44	24.4	26.4	27.6	37.1	38.1	39.3	40.5	41.5	51.3	52.4	54.4	19 39.36	0.10	27.94	13 20 7.40	15.15
	71 Virginis	45	48.2	50.3	51.7	1.3	2.4	3.6	4.8	5.9	15.6	16.9	18.9	22 3.60	0.08	27.94	13 22 31.62	14.75
	Weisse 392 . . .	46	55.9	58.0	59.1	8.8	9.8	11.0	12.3	13.3	23.2	24.2	26.5	24 11.10	0.09	27.94	13 24 39.13	14.86
	ζ Virginis	47	5.8	7.8	9.0	18.6	19.6	20.8	22.0	23.0	32.7	33.8	35.9	27 20.82	+ 0.11	27.94	13 27 48.87	15.16
	O. Arg. S. 17094 .	48	24.1	26.0	27.3	53.0	54.2	56.5	12.9	15.6	16.8	18.2	19.7	33 56.75	− 16.51	27.84	17 34 8.08	17.72
	Dorpat 2204 (1st *)	49	0.3	2.3	3.4	12.9	13.9	15.2	16.3	17.5	27.2	28.4	30.4	38 15.25	+ 0.16	27.84	17 38 43.25	16.37
	Dorpat 2204 (2d *)	50	38.3	39.7	41.0	42.1	44.5	. .	46.6	49.0	50.4	51.5	53.1	38 15.62	− 0.08	+27.84	17 38 43.38	− 16.37

25. Faint.

April 26, 11h. to 14h. n. = — 0.16 s.
17h. to 19h. — 0.18.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 26, 10.5	+ 27.95	— 0.003	+ 0.110

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 26	Weisse 905	1	55.7	57.7	58.9	8.6	9.6	10.7	11.8	12.9	22.7	23.9	25.9	45 10.76	+ 0.13	+27.84	17 45 38.73	— 15.76
Y.	O. Arg. S. 17376	2	. .	. .	. .	1.0	2.3	4.4	21.0	23.6	24.9	26.4	27.7	48 16.41	— 28.13	27.84	17 48 16.12	17.60
	Dorpat 2245 (1st *)	3	. .	. .	. .	58.6	59.6	0.9	2.1	3.3	. .	. .	. .	50 0.90	+ 0.10	27.84	17 50 28.84	12.90
	Dorpat 2245 (2d *)	4	. .	. .	. .	13.6	14.7	16.8	33.0	35.5	. .	38.0	. .	50 25.27	— 24.07	27.84	17 50 29.04	12.90
	Dorpat 2281	5	. .	. .	. .	20.5	21.5	22.6	23.8	24.9	34.5	35.8	37.9	2 27.69	— 4.87	27.84	18 02 50.66	14.41
	μ Sagittarii	6	56.5	58.7	0.0	10.2	11.3	12.6	13.9	15.0	25.4	26.5	28.8	5 12.63	+ 0.19	27.84	18 5 40.66	17.22
	O. Arg. S. 18015	†7	3.0	5.0	6.5	16.5	17.5	18.7	20.0	21.2	. .	. .	. .	10 13.55	+ 5.44	27.84	18 10 46.83	16.89
	δ Ursæ Minoris	8	. .	. .	. .	. .	. .	. .	. .	. .	7.5	28.0	. .	18 17.75	— 3 30.74	27.84	. . . . .	75.17
	ε Pegasi	9	48.7	50.8	52.0	1.7	2.6	3.9	5.0	6.0	15.8	17.0	19.1	37 3.87	+ 0.09	27.83	21 37 31.79	13.18
	γ Pegasi	10	31.6	33.5	34.8	44.7	45.8	47.0	48.2	49.3	59.3	0.5	2.6	5 47.03	+ 0.11	27.82	0 6 14.96	13.11
R.}	Venus I	11	26.6	28.2	29.3	30.5	32.7	.	33.4	35.5	36.8	38.2	39.4	0 3.06	— 0.13	27.82	1 0 30.75	. .
	Venus II	12	48.5	50.4	51.7	1.3	2.4	3.5	4.7	5.8	15.5	16.7	18.8	0 3.57	+ 0.11	27.82	1 0 31.50	. .
	Polaris	†13	. .	. .	. .	53.0	. .	23.0	10.0	55.0	. .	. .	. .	8 35.25	— 13.73	27.82	. . . .	53.47
27	Sun II	†14	32.9	34.8	36.1	46.0	47.0	48.3	49.5	50.7	0.7	1.8	3.5	20 48.30	+ 0.11	27.79	2 21 16.20	— 65.74
	Mercury I	†15	18.5	20.7	22.2	32.5	33.6	34.8	36.0	37.0	47.6	49.0	51.0	40 34.81	+ 0.11	27.79	3 41 2.71	+ 0.27
Y.	α Orionis	16	19.4	20.4	21.6	22.8	23.9	. .	52.0	54.5	55.7	57.0	58.4	47 38.57	— 16.84	27.79	5 47 49.52	— 13.92
	γ Geminorum	17	9.0	11.1	12.4	22.1	23.3	24.5	25.7	26.9	37.0	38.2	40.3	29 24.59	+ 0.12	27.79	6 29 52.50	15.09
	α Canis Majoris	18	26.5	28.6	29.9	39.7	40.8	42.1	. .	44.3	54.4	55.6	57.7	38 41.96	0.23	27.79	6 39 9.98	11.40
R.	Moon II	19	51.2	53.4	54.7	5.0	6.0	7.1	8.6	9.6	19.9	21.1	23.4	59 7.27	0.11	27.69	19 59 35.07	. .
Y.	α Andromedæ	†20	. .	. .	. .	. .	. .	. .	28.9	31.7	33.1	34.6	36.2	1 32.90	38.15	27.82	0 1 22.63	13.17
	Venus II	†21	19.9	21.9	23.2	32.9	33.9	35.2	36.4	37.4	47.0	48.2	50.4	4 35.13	0.10	27.79	1 5 3.02	— 0.36
	Polaris	†22	. .	. .	. .	56.0	34.5	24.5	14.0	56.0	. .	. .	. .	8 25.00	3.55	27.79	. . . .	. .
28	Sun I	23	8.7	10.7	11.9	21.7	22.8	24.0	25.3	26.4	36.4	37.5	39.6	23 24.09	0.10	27.76	2 23 51.95	. .
	Sun II	24	20.4	22.3	23.6	33.4	34.4	35.6	36.9	38.0	48.0	49.2	51.2	25 35.73	0.10	27.76	2 26 3.59	. .
	Mercury I	25	5.4	7:6	9.0	19.2	20.3	21.7	22.9	24.1	34.5	35.8	38.1	45 21.69	0.09	27.73	3 45 49.51	+ 0.27
	α Tauri	26	24.7	26.8	27.9	37.9	38.8	40.0	41.4	42.5	52.6	53.7	55.7	27 40.18	0.09	27.71	4 28 7.98	— 14.51
	β Orionis	27	17.7	19.7	20.9	30.7	31.7	32.9	34.0	35.0	44.9	46.0	48.1	7 32.87	0.12	27.70	5 8 0.69	12.07
	β Tauri	28	58.0	0.3	1.6	12.5	13.7	15.0	16.2	17.4	28.6	29.9	32.2	17 15.04	0.09	27.69	5 17 42.82	16.16
	α Orionis	29	6.6	8.7	9.9	19.5	20.5	21.6	22.8	23.8	33.7	34.9	36.9	47 21.72	0.10	27.68	5 47 49.50	13.91
	* — 35° 30′	30	25.3	27.8	29.4	41.0	42.2	43.7	45.0	46.3	58.4	59.8	2.3	21 43.75	0.26	27.94	10 22 11.95	13.13
	ρ Leonis	31	58.0	0.0	1.2	10.9	11.9	13.1	14.3	15.4	25.2	26.4	28.5	25 13.17	0.08	27.94	10 25 41.19	14.95
	Lacaille 4363	32	31.4	33.5	34.9	45.7	46.9	48.3	49.7	50.9	1.7	3.2	5.4	29 48.33	+ 0.22	27.94	10 30 16.49	13.63
	O. Arg. N. 11041	33	. .	. .	. .	22.4	25.0	30.0	4.0	9.6	12.3	15.3	18.3	33 54.61	— 58.95	27.94	10 33 23.60	19.19
	* — 28° 20′	34	23.8	26.2	27.4	38.3	39.3	40.5	42.0	43.2	54.2	55.5	57.9	36 40.75	+ 0.22	27.94	10 37 8.91	13.75
	Lacaille 4450	35	59.1	1.8	3.4	15.7	17.0	18.7	20.2	21.6	34.2	35.7	38.2	39 18.69	0.29	27.94	10 39 46.92	13.36
	Σ. Cat. Gen. 1248	36	58.3	0.6	2.0	12.5	13.6	14.8	16.1	17 3	27.9	29.3	31.5	43 14.90	0.04	27.93	10 43 42.87	15.50
	χ Leonis	37	19.3	21.3	22.5	32.3	33.1	34.4	35.5	36.6	46.3	47.6	49.6	57 34.41	+ 0.09	27.93	10 58 2.43	14.82
	O. Arg. N. 11496	38	36.9	40.7	43.5	2.3	4.3	6.6	8.7	10.7	29.7	32.0	36.0	2 6.49	— 0.07	27.93	11 2 34.35	17.41
	O. Arg. N. 11518	39	43.2	47.0	49.4	8.3	10.3	12.9	15.2	17.1	36.2	38.5	42.5	3 12.78	0.07	27.93	11 3 40.64	17.37
	O. Arg. N. 11584	40	41.9	45.5	48.0	6.2	8.4	10.6	13.0	15.0	33.5	36.1	40.0	7 10.74	— 0.07	27.93	11 7 38.60	17.27
	O. Arg. N. 11674	41	37.8	44.5	48.5	20.1	23.3	27.3	31.5	34.7	6.9	10.9	17.6	12 27.56	+ 0.17	27.92	11 12 55.31	19.34
	83 Leonis (1st *)	42	11.7	13.7	15.0	24.5	25.5	26.7	27.9	28.9	38.6	39.7	41.6	19 26.71	+ 0.09	27.92	11 19 54.72	14.88
	83 Leonis (2d *)	43	51.8	53.0	54.2	55.4	57.8	. .	58.0	0.4	1.6	2.8	4.1	19 27.91	— 0.15	27.92	11 19 55.68	14.88
	Weisse 403	44	15.0	17.0	18.2	27.9	28.8	30.0	31.2	32.3	42.0	43.2	45.3	23 30.08	+ 0.12	27.92	11 23 58.12	14.26
	O. Arg. N. 11873	45	. .	. .	. .	43.5	46.5	50.5	54.2	57.2	. .	. .	. .	26 50.38	— 0.01	27.92	11 27 18.29	18.13
	Carrington 1741	46	30.0	42.5	50.1	53.9	59.9	7.8	16.0	22.7	26.9	35.7	48.6	33 7.65	0.39	27.92	11 33 35.18	21.74
	O. Arg. N. 12020	47	29.7	34.2	37.8	12.7	17.0	24.2	18.8	27.1	31.9	36.4	41.3	37 39.19	— 1 9.45	27.92	11 36 57.66	17.98
	β Leonis	48	26.2	28.5	29.7	39.5	40.5	41.7	43.0	44.0	54.2	55.4	57.5	41 41.84	+ 0.07	27.91	11 42 9.82	14.84
	* — 37° 34′	49	12.2	14.8	16.3	28.4	29.5	30.9	32.5	33.9	46.1	47.5	50.2	45 31.12	0.27	27.91	11 45 59.30	15.20
	Radcliffe 2768	50	. .	. .	. .	23.6	25.0	26.5	28.0	29.6	. .	. .	. .	49 26.54	+ 0.06	+27.91	11 49 54.51	— 15.16

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 26, 1.8	+ 27.81	— 0.004	+ 0.110
28, 4.1	+ 27.72	— 0.025	. .

7. Through clouds.
13. Very unsteady.
14. Through clouds.
15. Very faint.
20. Faint; through clouds.
21. Very unsteady.
22. Faint and unsteady.

		s.
April 26–27	n. =	— 0.03.
27–28, 0h. to 6h.		0.07.
28, 10h. to 14h.		0.17.
20h. to 22h.		— 0.20.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 28	Radcliffe 2769 . .	1	52.0	53.8	55.6	57.0	0.0	. .	19.8	22.8	24.5	26.2	27.8	49 39.95	− 0.31	+27.91	11 50 7.55	− 15.15
Y.	Radcliffe 2771 . .	2	. .	. .	. .	46.3	47.6	49.2	50.7	52.1	. .	. .	. .	49 49.18	+ 0.06	27.91	11 50 17.15	15.16
	* — 35° 8′ . . .	3	7.1	9.6	11.0	22.6	23.7	25.3	26.6	28.0	39.8	41.2	43.7	55 25.33	+ 0.26	27.91	11 55 53.50	15.40
	O. Arg. N. 12337 .	4	20.3	28.1	33.5	11.0	15.0	19.6	24.6	28.7	7.7	11.8	20.3	59 20.05	− 0.22	27.91	11 59 47.74	16.40
	O. Arg. S. 11995 .	5	8.8	11.2	12.7	23.7	24.8	26.3	27.7	28.9	40.2	41.5	43.9	5 26.34	+ 0.23	27.91	12 5 54.48	15.51
	O. Arg. S. 12057 .	6	11.5	13.6	14.9	25.4	26.5	27.7	29.0	30.0	40.4	42.0	44.2	10 27.75	0.19	27.90	12 10 55.84	15.42
	η Virginis . . .	7	16.7	18.8	19.9	29.4	30.5	31.7	32.7	33.8	43.6	44.7	46.8	12 31.69	0.11	27.90	12 12 59.70	15.03
	Dorpat 1636 (1st *)	8	. .	. .	. .	9.0	10.0	11.3	12.5	13.6	. .	. .	. .	15 11.28	0.14	27.90	12 15 39.32	14.98
	Dorpat 1636 (2d *)	9	56.8	58.9	0.0	. .	. .	. .	. .	. .	23.7	24.9	26.9	15 11.87	0.05	27.90	12 15 39.82	14.98
	O. Arg. S. 12161 .	10	49.6	52.0	53.4	4.0	5 1	6.6	7.8	9.0	19.7	21.0	23.4	19 6.51	+ 0.21	27.90	12 19 34.62	15.64
	* — 35° 11′ . .	11	. .	. .	. .	16.0	17.4	19.8	38.6	41.5	42.9	44.4	46.3	21 33.36	− 31.57	27.90	12 21 29.69	15.99
	* — 35° 6′ . . .	12	. .	. .	. .	12.8	14.1	15.6	16.9	18.3	30.3	31.6	34.0	22 21.70	− 5.80	27.90	12 22 43.80	16.02
	Lacaille 5193 . .	13	40.5	42.8	44.4	55.7	56.7	58.1	59.5	0.6	11.9	13.4	15.5	24 58.10	+ 0.23	27.90	12 25 26.23	15.94
	* — 31° 46′ . .	14	34.0	36.5	37.9	49.2	50.3	51.7	53.0	54.3	5.7	7.0	9.4	25 51.73	+ 0.23	27.90	12 26 19.86	15.94
	* — 31° 47′ . .	15	. .	. .	. .	24.9	26.0	27.5	28.8	30.0	41.4	42.8	45.2	26 33.32	− 5.60	27.90	12 26 55.62	15.97
	Weisse 722 . . .	16	17.6	19.6	20.9	30.7	31.8	33.0	34.2	35.3	42.0	44.0	45.3	42 33.13	+ 0.15	27.89	12 43 1.17	15.50
	Weisse 728 . . .	17	. .	. .	. .	54.9	55.9	57.2	58.5	59.6	9.4	10.5	12.7	43 2.34	− 4.92	27.89	12 43 26.31	15.50
	O. Arg. S. 12495 .	18	. .	. .	. .	29.8	31.0	32.3	33.7	34.8	46.0	47.3	49.7	45 38.08	− 5.46	27.89	12 46 0.51	16.21
	O. Arg. S. 12520 .	19	29.2	31.6	32.9	43.9	45.0	46.3	47.7	48.9	59.9	1.3	3.6	47 46.39	+ 0.22	27.89	12 48 14.50	16.26
	Saturn I . . .	20	41.8	43.1	44.4	45.7	47.9	. .	48.0	50.6	51.7	52.9	54.3	51 18.04	− 0.12	27.89	12 51 45.81	. .
	Saturn II . . .	21	4.1	6.0	7.3	16.8	17.8	19.0	20.2	21.3	30.8	32.0	34.2	51 19.05	+ 0.12	27.89	12 51 47.06	. .
	* — 16° 54′ . .	22	9.3	11.3	12.6	22.5	23.5	24.7	26.0	27.0	37.2	38.4	40.6	56 24.83	0.17	27.89	12 56 52.89	15.81
	O. Arg. S. 12629 .	23	9.1	11.0	12.3	22.4	23.3	24.5	25.8	26.9	37.0	38.2	40.3	57 24.62	0.17	27.89	12 57 52.68	15.82
	θ Virginis	24	14.5	16.5	17.8	27.4	28.3	29.6	30.8	31.9	41.5	42.8	44.9	2 29.64	0.13	27.89	13 2 57.66	15.36
	Polaris, S. P. . .	25	. .	. .	. .	56.5	16.5	29.0	41.0	57.5	. .	. .	. .	8 28.10	+ 0.50	27.89	. . . .	54.31
	O. Arg. S. 12802 .	26	34.5	35.7	37.0	38.3	39.6	. .	10.8	13.6	14.8	16.3	17.7	12 55.83	− 18.59	27.88	13 13 5.12	16.51
	O. Arg. S. 12825 .	27	34.4	35.7	37.0	38.2	39.3	. .	10.3	12.9	14.2	15.7	17.2	14 55.49	18.36	27.88	13 15 5.01	16.44
	Lalande 24816 . .	28	. .	. .	. .	36.8	38.0	40.4	57.0	59.8	1.1	2.4	3.7	16 52.40	28.37	27.88	13 16 51.91	16.43
	Weisse 304 . . .	29	. .	. .	. .	. .	. .	. .	46.9	49.3	50.5	52.0	53.2	19 50.38	− 33.68	27.88	13 19 44.58	15.48
	O. Arg. S. 12920 .	30	27.6	29.9	31.2	42.2	43.4	44.8	46.2	47.4	58.6	59.9	2.2	23 44.85	+ 0.23	27.88	13 24 12.96	16.94
	ζ Virginis	31	6.0	7.9	9.2	18.7	19.7	20.9	22.0	23.1	32.8	34.0	36.0	27 20.94	0.11	27.88	13 27 48.93	15.16
	α Cygni	32	0.5	3.2	5.0	18.4	19.8	21.5	23.1	24.5	38.2	40.0	42.9	36 21.55	0.05	27.74	20 36 49.24	9.65
	Moon II	33	7.0	9.2	10.5	20.4	21.5	22.8	23.9	25.0	35.1	36.5	38.6	57 22.77	0.16	27.73	20 57 50.66	. .
	ζ Cygni	34	25.4	27.6	29.2	40.0	41.1	42.6	44.0	45.2	56.3	57.5	59.9	6 42.67	0.01	27.73	21 7 10.36	11.69
	β Aquarii	35	42.4	44.5	46.7	55.2	56.2	57.4	58.5	59.6	9.3	10.5	12.6	23 57.54	+ 0.12	27.72	21 24 25.38	14.21
	β Cephei	36	43.2	49.0	52.6	20.1	23.1	26.7	30.0	33.4	1.3	4.9	10.9	26 26.84	− 0.23	27.72	21 26 54.33	3.86
	ε Pegasi	37	48.7	50.9	52.1	1.7	2.7	4.0	5.2	6.2	15.9	17.1	19.2	37 3.97	+ 0.08	27.72	21 37 31.77	13.24
	γ Pegasi	38	31.8	33.8	35.1	44.9	45.9	47.3	48.4	49.5	. .	. .	. .	5 42.09	+ 5.28	27.58	0 6 14.95	13,55
R.	Venus I	†39	30.0	31.6	32.7	34.0	36.5	. .	37.0	39.5	40.6	41.9	43.3	9 6.71	− 0,12	27,39	1 9 33.98	. .
	Venus II	†40	52.0	54.3	55.3	5.0	6.1	7.4	8.4	9.5	19.1	20.4	22.4	9 7.26	+ 0.12	27.39	1 9 34.77	. .
	Polaris	41	. .	. .	. .	22.0	9.0	34.0	45.0	22.0	13.0	8.0	3.0	25 57.00	—17 27.50	27.39	. . . .	. .
	α Arietis	42	24.6	26.2	27.3	29.6	31.2	. .	. .	. .	. .	. .	. .	58 27.78	+ 36.15	27.39	1 59 31.32	— 14.13
29	Sun I	43	57.0	58.9	0.1	10.0	11.0	12.3	13.5	14.6	24.4	25.8	27.9	27 12.32	0.13	27.39	2 27 39.84	. .
	Sun II	44	8.6	10.5	11.7	21.9	22.9	24.1	25.4	26.4	36.4	37.7	39.7	29 24.12	0.13	27.39	2 29 51.64	. .
	Mercury I . . .	45	34.5	36.6	38.0	48.4	49.4	50.8	52.2	53.2	3.7	5.0	7.2	49 50.82	0.15	27.39	3 50 18.36	+ 0.28
	α Tauri	46	25.1	27.0	28.2	37.9	39.0	40.4	41.6	42.8	52.7	54.0	56.1	27 40.44	0.13	27.38	4 28 7.95	— 14.50
	β Orionis	47	18.1	20.2	21.4	31.2	32.2	33.4	34.5	35.5	45.4	46.4	48.6	7 33.35	0.10	27.38	5 8 0.83	12.07
	β Tauri	48	58.3	0.4	2.0	12.8	13.9	15.3	16.5	17.7	28.8	30.1	32.2	17 15.27	0.16	27.38	5 17 42.81	16.16
	χ Leonis	49	19.8	21.9	23.0	32.7	33.7	34.9	36.0	37.2	46.9	48.0	50.0	57 34.92	0.11	27.37	10 58 2.40	14.81
	O. Arg. S. 11208 .	50	12.0	14.2	15.5	26.1	27.2	28.6	29.9	31.0	41.7	43.0	45.2	3 28,58	+ 0.13	+27.37	11 3 56.08	— 14,31

39–40. Very unsteady and much blurred.

April 28–29, 0h. to 6h. n. = + 0.07 s.
29, 10h. to 14h, — 0.02.

April 28, 13h, 45m. Image east 0.07 r. Clamp east.
Image west 0.33. Clamp west.
Image east 0,05. Clamp east.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
April 28, 16.4	+ 27.82	— 0,020	+ 0.110
29, 9.0	+ 27.37	— 0.003	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
April 29	O. Arg. S. 11216 .	1	. .	. .	. .	11. 9	12. 9	14. 3	15. 7	17. 8	27. 5	28. 8	31. 0	4 19. 99	— 5. 35	+27. 37	11 4 42. 00	— 14. 33
R.	O. Arg. S. 11291 .	2	53. 4	55. 7	57. 1	7. 8	8. 9	10. 3	11. 6	12. 9	13. 7	14. 9	17. 3	11 10. 33	+ 0. 14	27. 36	11 11 37. 83	14. 42
	O. Arg. S. 11304 .	3	5. 3	7. 6	9. 0	19. 8	20. 9	22. 3	23. 7	24. 7	35. 8	37. 0	39. 4	12 22. 32	+ 0. 14	27. 36	11 12 49. 82	14. 44
	O. Arg. S. 11318 .	4	. .	. .	. .	. .	. .	. .	50. 8	53. 5	55. 0	56. 4	57. 9	13 54. 72	— 37. 79	27. 36	11 13 44. 29	14. 46
	Weisse 358 . . .	5	26. 0	28. 1	29. 2	38. 7	39. 6	40. 9	42. 1	43. 2	52. 8	54. 0	56. 0	20 40. 96	+ 0. 11	27. 36	11 21 8. 43	14. 83
	B. A. C. 3909 . .	6	47. 0	49. 0	50. 2	59. 8	0. 8	2. 0	3. 1	4. 2	13. 9	15. 1	17. 0	22 2. 01	+ 0. 11	27. 36	11 22 29. 48	14. 84
	Lacaille 4792 . .	7	. .	. .	. .	. .	. .	. .	44. 7	47. 5	49. 1	50. 5	52. 3	28 48. 82	— 40. 85	27. 36	11 28 35. 33	14. 74
	* — 34° 49′ . .	8	39. 6	41. 9	43. 5	55. 1	56. 4	57. 8	59. 3	0. 6	12. 2	13. 7	16. 1	30 57. 84	+ 0. 15	27. 36	11 31 25. 35	14. 81
	* — 35° 9′ . .	9	35. 2	37. 7	39. 3	50. 9	52. 0	53. 5	54. 9	56. 1	8. 0	9. 3	11. 9	39 53. 53	0. 15	27. 36	11 40 21. 04	15. 02
	* — 35° 15′ . .	10	7. 0	9. 5	11. 0	22. 7	23. 9	25. 3	26. 9	28. 0	39. 9	41. 2	43. 7	41 25. 37	0. 15	27. 36	11 41 52. 88	15. 06
	* — 35° 9′ . .	†11	8. 0	10. 3	11. 8	23. 5	24. 7	26. 2	27. 6	28. 8	40. 6	42. 2	44. 6	55 26. 21	+ 0. 15	27. 36	11 55 53. 72	15. 39
	o Virginis . . .	12	. .	. .	. .	. .	. .	. .	22. 5	25. 0	26. 3	27. 6	29. 0	58 26. 08	— 34. 01	27. 36	11 58 19. 43	14. 89
	ε Corvi	13	27. 5	29. 6	30. 9	41. 2	42. 2	43. 5	44. 8	45. 9	56. 2	57. 6	59. 7	2 43. 55	+ 0. 13	27. 36	12 3 11. 04	15. 28
	* — 25° 48′ . .	14	53. 0	54. 6	56. 0	57. 4	59. 9	. .	6. 7	9. 2	10. 5	11. 9	13. 3	8 33. 25	— 0. 13	27. 36	12 9 0. 38	15. 44
	* — 25° 50′ . .	15	19. 6	21. 8	23. 2	33. 7	34. 8	36. 3	37. 6	38. 7	49. 4	50. 7	52. 9	8 36. 25	+ 0. 13	27. 36	12 9 3. 74	15. 45
	* — 25° 50′ . .	16	. .	. .	. .	21. 7	22. 8	24. 1	25. 5	26. 5	37. 4	38. 6	40. 7	9 29. 66	— 5. 38	27. 36	12 9 51. 64	15. 45
	* — 25° 48′ . .	17	50. 6	52. 7	54. 3	4. 8	5. 7	7. 1	8. 5	9. 8	20. 4	21. 7	24. 0	11 7. 24	+ 0. 13	27. 36	12 11 34. 73	15. 49
	* — 35° 10′ . .	18	44. 2	46. 5	47. 9	59. 6	0. 7	2. 3	3. 8	5. 2	16. 8	18. 1	20. 7	21 2. 36	0. 15	27. 36	12 21 29. 87	15. 98
	* — 35° 2′ . . .	19	58. 0	0. 5	2. 2	13. 6	14. 9	16. 4	17. 8	19. 1	31. 0	32. 3	35. 0	22 16. 44	0. 15	27. 36	12 22 43. 95	16. 01
	β Corvi	20	34. 3	36. 5	37. 8	48. 0	49. 2	50. 4	51. 7	52. 8	3. 3	4. 5	6. 7	26 50. 47	0. 13	27. 36	12 27 17. 96	15. 63
	O. Arg. S. 12286 .	21	22. 6	24. 7	26. 1	36. 6	37. 8	39. 2	40. 4	41. 5	52. 1	53. 5	55. 7	29 39. 11	+ 0. 13	27. 36	12 30 6. 60	15. 77
	Lacaille 5234 . .	22	. .	. .	. .	29. 5	30. 6	32. 3	33. 7	35. 0	47. 2	48. 8	51. 2	32 38. 54	— 6. 05	27. 36	12 32 59. 85	16. 34
	Lacaille 5252 . .	23	28. 7	31. 1	32. 7	44. 5	45. 7	47. 3	48. 9	50. 2	2. 4	3. 8	6. 5	34 47. 44	+ 0. 15	27. 36	12 35 14. 95	16. 40
	O. Arg. S. 12444 .	24	9. 2	11. 5	12. 7	23. 3	24. 4	25. 6	26. 8	28. 0	38. 6	40. 0	42. 3	41 25. 67	0. 13	27. 36	12 41 53. 16	15. 96
	O. Arg. S. 12460 .	25	13. 3	15. 4	16. 7	27. 5	28. 4	29. 7	31. 0	32. 2	42. 9	44. 2	46. 6	42 29. 81	0. 13	27. 36	12 42 57. 30	15. 97
	* — 25° 7′ . .	26	41. 6	43. 6	45. 0	55. 7	56. 8	58. 1	59. 3	0. 6	11. 1	12. 4	14. 6	43 58. 07	0. 13	27. 36	12 44 25. 56	15. 99
	α Canum Venaticorum	27	55. 5	58. 3	0. 0	12. 3	13. 4	15. 0	16. 4	18. 0	30. 3	31. 8	34. 5	49 15. 05	0. 13	27. 36	12 49 42. 54	14. 02
	Saturn I	28	48. 8	50. 7	52. 0	. .	. .	. .	. .	. .	15. 5	16. 7	18. 7	57 3. 73	0. 07	27. 36	12 51 31. 16	. .
	Saturn II . . .	29	. .	. .	. .	2. 9	3. 8	5. 0	6. 1	7. 3	. .	. .	. .	51 5. 02	0. 16	27. 36	12 51 32. 54	. .
	O. Arg. S. 12615 .	30	51. 5	53. 5	54. 8	5. 6	6. 6	7. 8	9. 2	10. 5	20. 9	22. 2	24. 6	56 7. 93	0. 13	27. 36	12 56 35. 42	16. 18
	θ Virginis	31	15. 2	17. 1	18. 4	28. 0	29. 0	30. 2	31. 3	32. 4	42. 0	43. 2	45. 2	2 30. 18	0. 11	27. 36	13 2 57. 65	15. 36
	Polaris, S. P. . .	32	. .	. .	. .	2. 0	24. 0	36. 0	48. 0	5. 0	. .	. .	. .	8 35. 00	5. 57	27. 36	. . . .	. .
	ε Pegasi	†33	49. 3	51. 3	52. 4	2. 0	3. 0	4. 2	5. 5	6. 6	16. 4	17. 5	19. 6	37 4. 35	0. 11	27. 41	. . . .	. .
	Moon II . . .	†34	0. 6	2. 6	3. 9	13. 9	14. 9	16. 0	17. 3	18. 4	28. 3	29. 6	31. 6	54 16. 10	0. 11	27. 41	21 54 43. 62	. .
May 2	α Andromedæ .	35	38. 7	40. 9	42. 4	53. 2	54. 3	55. 7	56. 9	58. 0	9. 2	10. 5	12. 8	0 55. 69	0. 11	26. 92	. . . .	13. 29
Y.	Polaris	36	22. 0	41. 0	32. 0	. .	35. 0	25. 5	. .	. .	. .	. .	. .	2 55. 10	5 36. 34	26. 92	. . . .	. .
3	α Andromedæ . .	37	38. 7	41. 0	42. 4	53. 2	54. 2	55. 7	57. 0	58. 2	9. 3	10. 6	12. 8	0 55. 73	0. 14	. .	. . . .	13. 32
R.	γ Pegasi	38	32. 6	34. 7	36. 0	45. 7	46. 8	48. 0	49. 3	50. 4	0. 2	1. 5	3. 7	5 48. 08	+ 0. 11	. .	. . . .	13. 26
	Polaris	†39	. .	. .	. .	. .	37. 0	26. 0	11. 0	54. 0	25. 0	13. 0	32. 0	12 28. 29	— 3 56. 54	26. 78	. . . .	. .
	Venus I . . .	40	17. 5	19. 0	20. 2	21. 3	23. 6	. .	24. 6	26. 9	28. 3	29. 6	31. 0	31 54. 20	— 0. 13	26. 78	1 32 20. 85	. .
	Venus II . . .	41	39. 4	41. 5	42. 8	52. 6	53. 5	54. 7	56. 0	57. 0	6. 7	7. 8	10. 1	31 54. 74	+ 0. 11	26. 78	1 32 21. 63	. .
	α Arietis	42	48. 3	50. 4	51. 8	1. 9	3. 1	4. 5	5. 8	6. 9	17. 2	18. 6	20. 8	59 4. 48	0. 13	26. 79	1 59 31. 40	— 14. 07
4	Sun I	43	5. 1	7. 1	8. 4	18. 2	19. 5	21. 0	22. 2	23. 3	33. 3	34. 6	36. 5	46 20. 84	0. 12	26. 80	2 46 47. 76	. .
	Sun II	†44	17. 9	19. 9	21. 1	31. 3	32. 3	33. 4	34. 7	35. 8	45. 8	47. 0	49. 3	48 33. 50	0. 12	26. 80	2 49 0. 42	. .
	Mercury I . . .	45	8. 8	11. 1	12. 4	22. 9	23. 9	25. 4	26. 6	27. 6	38. 1	39. 4	41. 7	7 25. 26	0. 11	26. 82	4 7 52. 19	+ 0. 32
	α Tauri	46	25. 3	27. 3	28. 6	38. 7	39. 8	41. 0	42. 2	43. 2	53. 2	54. 7	56. 7	27 40. 97	0. 10	26. 83	4 28 7. 90	— 14. 50
	β Orionis	47	18. 6	20. 8	21. 9	31. 5	32. 5	33. 7	34. 9	36. 0	45. 7	46. 9	48. 8	7 33. 75	0. 10	26. 84	5 8 0. 69	12. 04
	β Tauri	48	58. 7	1. 0	2. 6	13. 2	14. 3	15. 6	17. 0	18. 2	29. 3	30. 6	33. 0	17 15. 77	0. 11	26. 85	5 17 42. 73	16. 13
	δ Orionis	49	22. 4	24. 4	25. 8	35. 0	36. 1	37. 3	38. 4	39. 5	49. 0	50. 2	52. 3	24 37. 31	+ 0. 10	+26. 85	5 25 4. 26	— 12. 94

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 4, 8.5	+ 26. 90	+ 0. 017	+ 0. 100

11. Preceded by a smaller star.
33. Through clouds.
34. Faint.
39. Wind violent. Star very unsteady.
44. Both limbs blurred and vibrating.

		s.
May 3–4,	0h. to 4h. n. =	+ 0. 04.
4,	4h. to 6h.	0. 00.
	11h. to 14h.	— 0. 07.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.											CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. May 4, Y. R.	α Orionis	1	7. 4	9. 4	10. 5	20. 2	21. 2	22. 4	23. 6	24. 5	34. 3	35. 6	37. 6	47 22. 43	+ 0. 10	. .	. . . . .	— 13. 86
	* — 35° 9′ . .	2	35. 5	38. 0	39. 4	51. 0	52. 2	53. 6	55. 3	56. 5	8. 4	9. 9	12. 3	39 53. 83	0. 17	+26. 95	11 40 20. 95	14. 97
	* — 35° 15′ . .	3	7. 4	9. 8	11. 2	23. 1	24. 3	25. 7	27. 2	28. 4	40. 2	41. 5	44. 0	41 25. 71	0. 17	26. 95	11 41 52. 83	15. 01
	* — 35° 14′ . .	4	35. 2	37. 5	38. 9	50. 6	52. 0	53. 4	54. 9	56. 2	8. 0	9. 5	12. 0	46 53. 47	+ 0. 17	26. 96	11 47 20. 60	15. 14
	Radcliffe 2769 . .	5	. .	. .	. .	. .	. .	. .	20. 2	23. 6	25. 3	26. 9	28. 8	50 24. 96	— 44. 55	26. 96	11 50 7. 37	. .
	Radcliffe 2771 . .	6	46. 8	48. 1	49. 6	51. 3	52. 7	5. 3	7. 3	9. 8	. .	. .	. .	49 56. 36	— 6. 51	26. 96	11 50 16. 81	15. 07
	* — 35° 9′ . .	7	8. 3	10. 7	12. 2	23. 9	25. 0	26. 4	27. 9	29. 2	41. 1	42. 4	45. 0	55 26. 55	+ 0. 17	26. 96	11 55 53. 68	15. 34
	ο Virginis	8	37. 4	39. 3	40. 6	50. 1	51. 1	52. 4	53. 6	54. 7	4. 2	5. 6	7. 6	57 52. 42	0. 09	26. 96	11 58 19. 47	14. 85
	O. Arg. S. 12067 .	9	12. 5	14. 6	16. 0	26. 4	27. 5	28. 8	30. 0	31. 2	41. 6	42. 9	45. 2	10 28. 79	0. 14	26. 96	12 10 55. 89	15. 39
	η Virginis	10	17. 6	19. 6	20. 8	30. 3	31. 4	32. 5	33. 6	34. 7	44. 4	45. 7	47. 5	12 32. 55	0. 10	26. 96	12 12 59. 61	14. 99
	Lacaille 5126 . .	11	22. 8	25. 3	26. 7	38. 6	39. 8	41. 5	42. 9	44. 3	56. 1	57. 7	0. 3	15 41. 45	0. 18	26. 97	12 16 8. 60	15. 88
	O Arg. S. 12161 .	12	51. 0	53. 0	54. 4	4. 9	6. 1	7. 4	8. 8	10. 2	20. 8	21. 1	24. 4	19 7. 46	0. 15	26. 97	12 19 34. 58	15. 61
	Lacaille 5191 . .	13	11. 1	13. 4	15. 0	26. 2	27. 4	28. 7	30. 2	31. 4	42. 7	43. 9	46. 5	24 28. 77	+ 0. 16	26. 97	12 24 55. 90	15. 89
	Lacaille 5193 . .	14	. .	. .	. .	13. 0	14. 6	16. 7	34. 6	37. 6	39. 0	40. 6	42. 1	25 29. 78	— 30. 42	26. 97	12 25 26. 33	15. 90
	* — 31° 44′ . .	15	11. 2	13. 4	14. 7	26. 0	27. 0	28. 5	30. 0	31. 1	42. 6	43. 9	46. 3	26 28. 61	+ 0. 16	26. 97	12 26 55. 74	15. 93
	O. Arg. S. 12332 .	16	50. 8	53. 0	54. 3	5. 0	6. 3	7. 6	8. 8	9. 9	20. 8	21. 9	24. 3	33 7. 52	0. 15	26. 97	12 33 34. 64	15. 84
	Saturn I . . .	17	40. 4	42. 2	43. 6	52. 9	54. 0	55. 2	56. 5	57. 6	. .	. .	. .	49 50. 30	+ 5. 09	26. 97	12 50 22. 36	. .
	Saturn II . . .	18	. .	. .	. .	8. 3	9. 4	11. 5	26. 7	29. 1	30. 3	31. 7	33. 0	50 22. 50	— 25. 94	26. 97	12 50 23. 53	. .
	O. Arg. S. 12588 .	19	42. 7	45. 0	46. 4	57. 5	58. 6	59. 8	1. 2	2. 6	13. 4	14. 8	17. 3	53 59. 94	+ 0. 16	26. 98	12 54 27. 08	16. 40
	θ Virginis	20	15. 7	17. 5	19. 0	28. 4	29. 4	30. 5	31. 7	32. 8	42. 5	43. 6	45. 6	2 30. 61	+ 0. 11	26. 98	13 2 57. 70	15. 36
	Polaris, S. P. . .	†21	. .	. .	. .	1. 0	27. 0	38. 0	48. 0	2. 0	. .	. .	. .	8 35. 20	— 3. 15	26. 98	. . . . .	56. 73
	* — 29° 57′ . .	22	58. 5	0. 7	2. 2	13. 2	14. 1	15. 5	16. 8	18. 0	29. 1	30. 5	33. 2	40 15. 62	+ 0. 16	26. 99	13 40 42. 77	17. 18
	O. Arg. S. 13156 .	23	. .	. .	. .	49. 3	50. 3	51. 6	53. 0	54. 3	5. 4	6. 8	9. 1	40 57. 48	— 5. 56	26. 99	13 41 18. 91	17. 20
	Lacaille 5729 . .	24	17. 2	19. 7	21. 1	32. 9	34. 0	35. 4	36. 8	38. 0	50. 0	51. 3	53. 9	45 35. 48	+ 0. 17	26. 99	13 46 2. 64	17. 70
	η Bootis	25	. .	. .	. .	1. 0	2. 0	4. 2	20. 5	22. 7	24. 0	25. 6	27. 0	48 15. 88	— 27. 44	26. 99	13 48 15. 43	14. 27
Y.	α Andromedæ . .	26	38. 7	40. 9	42. 3	53. 1	54. 3	55. 6	56. 9	58. 1	9. 1	10. 6	12. 8	0 55. 67	+ 0. 13	26. 95	0 1 22. 75	13. 35
	γ Pegasi	27	32. 5	34. 6	35. 9	45. 8	46. 8	47. 9	49. 2	50. 3	0. 2	1. 5	3. 5	5 48. 02	0. 11	26. 95	0 6 15. 08	13. 29
	Polaris	28	. .	. .	. .	57. 5	37. 0	24. 5	12. 5	54. 0	. .	. .	. .	8 25. 10	+ 7. 19	26. 96	. . . . .	57. 02
	Venus I . . .	29	52. 4	53. 9	55. 0	56. 2	58. 6	. .	59. 4	2. 0	3. 1	4. 6	5. 9	36 29. 11	— 0. 13	26. 96	1 36 55. 94	. .
	Venus II . . .	30	. .	16. 4	17. 6	27. 4	28. 5	29. 7	30. 9	31. 9	41. 6	42. 7	. .	36 29. 63	+ 0. 12	26. 96	1 36 56. 71	. .
	α Arietis	†31	2. 0	3. 0	4. 4	5. 6	6. 8	. .	37. 2	39. 6	41. 0	42. 4	44. 0	59 22. 60	— 18. 11	26. 97	1 59 31. 46	14. 21
5	Sun I	32	. .	. .	. .	24. 4	25. 5	27. 8	43. 5	46. 0	47. 4	48. 7	50. 1	50 39. 18	— 27. 09	26. 97	2 50 39. 06	. .
	Sun II	33	9. 2	11. 3	12. 6	22. 4	23. 5	24. 7	25. 9	27. 1	37. 2	38. 5	40. 5	52 24. 81	+ 0. 11	26. 97	2 52 51. 89	. .
	β Orionis	34	18. 6	20. 6	21. 9	31. 5	32. 5	33. 7	34. 8	35. 9	45. 7	46. 9	49. 0	7 33. 74	0. 10	26. 99	5 8 0. 83	12. 03
	β Tauri	35	58. 6	0. 8	2. 4	12. 9	14. 2	15. 5	16. 9	18. 0	29. 0	30. 5	32. 7	17 15. 59	0. 13	27. 00	5 17 42. 72	16. 12
	δ Orionis	36	22. 2	24. 3	25. 5	35. 0	36. 0	37. 2	38. 4	39. 4	49. 1	50. 3	52. 3	24 37. 25	0. 10	27. 00	5 25 4. 35	12. 94
	ε Orionis	37	37. 5	39. 5	40. 8	50. 2	51. 3	52. 5	53. 7	54. 7	4. 3	5. 5	7. 5	28 52. 50	0. 10	27. 00	5 29 19. 60	12. 85
	O. Arg. S. 10974 .	38	42. 0	44. 2	45. 7	. .	. .	. .	. .	. .	12. 8	14. 2	16. 5	47 59. 23	0. 07	27. 05	10 48 26. 35	13. 84
	* — 22° 32′ . .	39	48. 3	50. 5	51. 8	2. 0	3. 2	4. 5	5. 7	6. 8	17. 4	18. 7	20. 8	52 4. 52	0. 11	27. 05	10 52 31. 68	14. 10
	* — 33° 9′ . .	40	36. 7	39. 2	40. 5	51. 9	53. 0	54. 5	56. 0	57. 2	8. 8	10. 0	12. 5	54 54. 48	0. 12	27. 05	10 55 21. 65	13. 90
	χ Leonis	41	20. 0	22. 2	23. 4	32. 9	33. 9	35. 2	36. 3	37. 4	47. 3	48. 3	50. 4	57 35. 21	+ 0. 10	27. 05	10 58 2. 36	14. 74
	O. Arg. S. 11154 .	42	. .	. .	. .	26. 2	27. 4	28. 7	30. 0	31. 3	42. 0	43. 4	45. 7	0 34. 34	— 5. 49	27. 05	11 0 55. 90	14. 14
	Lacaille 4638 . .	43	38. 8	41. 0	42. 4	53. 0	54. 0	55. 4	56. 7	57. 8	8. 5	9. 9	12. 2	5 55. 43	+ 0. 11	27. 05	11 6 22. 59	14. 27
	O. Arg. S. 11267 .	44	35. 3	37. 6	39. 0	50. 0	51. 2	52. 6	53. 9	55. 0	6. 2	7. 6	10. 0	8 52. 58	0. 12	27. 05	11 7 19. 75	14. 27
	O. Arg. S. 11318 .	45	0. 1	2. 4	3. 6	14. 3	15. 5	16. 7	18. 0	19. 2	30. 4	31. 6	34. 0	13 16. 89	0. 11	27. 05	11 13 44. 05	14. 39
	Weisse 284 . . .	46	6. 2	8. 2	9. 5	19. 0	20. 0	21. 3	22. 4	23. 5	33. 1	34. 3	36. 3	17 21. 25	0. 10	27. 05	11 17 48. 40	14. 80
	Lacaille 4758 . .	47	12. 5	14. 6	16. 0	26. 7	27. 8	29. 2	30. 6	31. 7	42. 5	43. 9	46. 3	22 29. 25	+ 0. 11	27. 05	11 22 56. 41	14 57
	* — 29° 30′ . .	48	. .	. .	. .	51. 8	53. 0	54. 3	55. 6	56. 8	7. 8	9. 1	11. 6	24 0. 00	— 5. 57	27. 05	11 24 21. 48	14. 59
	Lacaille 4777 . .	49	45. 8	47. 1	48. 6	50. 0	51. 2	. .	25. 7	28. 6	30. 1	31. 8	33. 4	26 9. 23	20. 49	27. 05	11 26 15. 79	14. 61
	* — 26° 5′ . . .	50	49. 0	. .	52. 6	3. 3	4. 4	5. 7	7. 0	8. 2	18. 9	20. 2	22. 4	32 7. 17	— 1, 34	+27. 05	11 32 32. 88	— 14. 77

21. Unsteady.
31. Faint.

May 4–5, 0h. to 6h. n. = + 0.03 s.
5, 10h. to 17h. 0.00,

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
May 5, 9.1 h.	+ 27.03 s.	+ 0.009 s.	+ 0.100 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'nt. 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 5	O. Arg. N. 12020	1	35.4	41,8	46.6	21.4	24.8	28.7	33.3	37.4	11.4	16.3	23.4	36 29.14	+ 0.36	+27.05	11 36 56.55	— 17.60
Y.	O. Arg. S. 11656	2	47.7	49.9	51.2	1.7	2.7	4.0	5.4	6.6	17.4	18.6	20.9	40 4.19	0.11	27.05	11 40 31.35	14.90
	* — 36° 10′	3	37.9	40.4	41.9	53.7	55.0	56.5	58.0	59.3	11.3	12.7	15.1	43 55.53	0.12	27.05	11 44 22.70	15.07
	* — 35° 13′	4	34.8	37.4	38.8	50.4	51.6	53.0	54.5	55.9	7.8	9.3	11.6	46 53.19	0.12	27.05	11 47 20.36	15.13
	Radcliffe 2768	5	. .	. .	. .	24.3	25.7	27.2	28.7	30.0	. .	. .	. .	49 27.18	0.19	27.05	11 49 54.42	15.06
	Radcliffe 2769	6	. .	. .	. .	37.2	38.5	40.2	41.6	43.0	. .	. .	. .	49 40.10	0.19	27.05	11 50 7.34	15.06
	Radcliffe 2771	7	. .	. .	. .	46.6	47.9	49.5	51.1	52.6	. .	. .	. .	49 49.54	0.19	27.05	11 50 16.78	15.06
	Lacaille 4976	8	46.0	48.5	49.9	1.3	2.5	3.9	5.4	6.6	18.1	19.6	22.0	54 3.98	0.12	27.05	11 54 31.15	15.26
	o Virginis	9	37.1	39.2	40.4	50.0	51.0	52.2	53.5	54.5	4.3	5.5	7.5	57 52.29	+ 0.10	27.05	11 58 19.44	14.84
	Dorpat 1604 (1st *)	10	25.6	27.0	28.2	29.5	31.8	. .	33.1	35.5	36.7	38.0	39.5	2 2.49	— 0.14	27.06	12 2 29.41	15.07
	Dorpat 1604 (2d *)	12	. .	. .	. .	0.7	1.8	2.9	4.2	5.4	. .	. .	. .	2 3.00	+ 0.15	27.06	12 2 30.21	15.07
	Dorpat 1604 (3d *)	11	50.3	52.4	53.6	. .	. .	. .	. .	. .	17.6	18.8	20.8	2 5.58	0,06	27,06	12 2 32.70	15.07
	Lacaille 5063	13	28.2	30.5	32.0	43.5	44.7	46.2	47.5	48.7	0.3	1.7	4.1	5 46.22	0,12	27.06	12 6 13.40	15.53
	* — 25° 50′	14	16.5	18.7	20.0	30.7	31.8	33.1	34.4	35.6	46.4	47.6	49.7	8 33.14	0.11	27.06	12 9 0.31	15.40
	* — 25° 52′	15	7.7	10.0	11.3	21.9	23.0	24.4	25.7	26.8	37.5	38.7	41.1	9 24.37	0.11	27.06	12 9 51.54	15.43
	* — 27° 45′	16	14.2	16.3	17.7	28.6	29.7	31.0	32.4	33.5	44.5	45.8	48.0	12 31.06	0.11	27.06	12 12 58.23	15.52
	Lacaille 5191	17	10.8	13.3	14.7	25.8	26.9	28.4	29.7	30.9	42.5	43.8	46.1	24 28.45	0.12	27.06	12 24 55.63	15.89
	β Corvi	18	34.4	36.6	38.0	48.4	49.4	50.7	51.9	53.1	3.5	4.8	7.0	26 50.71	+ 0.11	27.06	12 27 17.88	15.59
	* — 29° 1′	19	. .	. .	. .	. .	. .	. .	14.6	17.4	18.8	20.4	21.8	38 18.60	— 38.37	27.06	12 38 7.29	16.03
	* — 29° 50′	20	24.0	26.4	27.8	38.7	39.9	41.3	42.6	43.8	55.1	56.4	58.7	42 41.34	+ 0.12	27.06	12 43 8.52	16.17
	Saturn I	21	27.1	29.0	30,3	39.7	40.8	41.9	43.0	44.2	53.9	55.0	57.0	50 41.99	+ 0.10	27.06	12 51 9.15	. .
	Saturn II	22	7.3	8.6	9.9	10.9	13.3	. .	13.4	15.8	17.0	18.3	19.6	50 43.41	— 0.14	27.06	12 51 10.33	. .
	* — 30° 6′	23	42.4	44.7	46.0	57.1	58.3	59.7	0.9	2.2	13.3	14.6	17.0	53 59.65	+ 0.12	27.06	12 54 26.83	16.39
	* — 16° 55′	24	9.9	11.9	13.3	23.4	24.5	25.6	26.7	27.9	38.0	39.3	41.4	56 25.63	0.10	27.06	12 56 52.79	15.79
	O. Arg. S. 12655	25	30,7	33.0	34,4	45.3	46.5	48.0	49.3	50.5	1.5	2.8	5.2	59 47.93	0.12	27.07	13 0 15.12	16.47
	θ Virginis	26	15.4	17.3	18.6	28.1	29.1	30.3	31.5	32.6	42.3	43.4	45.5	2 30.37	+ 0.10	27.07	13 2 57.54	15.35
	Polaris, S. P.	27	. .	. .	. .	8.0	27.5	39.0	51.0	8.0	. .	. .	. .	8 38.70	— 5.98	27.07	. . . .	. .
	O. Arg. S. 12825	28	. .	. .	. .	35,3	36.4	37.7	38.9	40.0	50.8	52,0	54.2	14 43.16	5.36	27.07	13 15 4.87	16.44
	Lalande 24816	29	. .	. .	. .	22.1	23.2	24.6	25.9	27.1	37.6	38.8	41.1	16 30.05	— 5.33	27.07	13 16 51.79	16.43
	* — 34° 54′	30	36.3	38.7	40.3	51.8	52.9	54.4	55.9	57.4	8.9	10.3	12.7	18 54.51	+ 0.12	27.07	13 19 21.70	17.20
	* — 34° 57′	31	30.6	33.2	34.7	46.5	47.6	48.8	50.3	51.6	3.5	4,9	7.4	19 49.01	+ 0.12	27.07	13 20 16.20	17.23
	* — 34° 51′	32	. .	. .	. .	. .	. .	. .	51.8	54.7	56.3	57.9	59.5	21 56.04	— 40.89	27.07	13 21 42.22	17.25
	O. Arg. S. 12920	33	. .	. .	. .	42.8	44.2	45.6	46.9	48.2	. .	. .	. .	23 45.54	+ 0.18	27.07	13 24 12.79	16.96
	* — 31° 40′	34	22.6	25.0	26,5	37.5	38.8	40.2	. .	42.8	54.0	55.4	57.9	27 40.07	0.25	27.07	13 28 7.39	17.11
	* — 26° 33′	35	29.1	31.3	32.8	43.4	44.5	45.9	47.2	48.4	59.1	0.4	2.6	30 45.88	0.11	27.07	13 31 13.06	16.78
	* — 26° 27′	36	37.1	39.5	40.8	51.6	52.7	53.9	55.3	56.4	. .	. .	. .	31 48.41	5.68	27.07	13 32 21.16	16.78
	* — 37° 40′	37	21.0	23.4	25,2	37.0	38.3	39.6	41.2	42.6	54.9	56,3	58.9	34 39.85	0.13	27.07	13 35 7.05	17.78
	* — 24° 48′	38	31.6	33.6	35.1	45,6	46.7	48.0	49.3	50.4	1.0	2.4	4.7	36 48.04	0.11	27.07	13 37 15.22	16.74
	O. Arg. S. 13149	39	. .	. .	. .	12.7	13.8	15.2	16.6	17.7	. .	. .	. .	40 15.20	0.17	27.07	13 40 42.44	17.19
	O. Arg. S. 13156	40	34,0	36.4	37.9	48.8	49.9	51.4	52.7	53.9	5.1	6.5	8.7	40 51.39	+ 0.12	27.07	13 41 18.58	17.20
	Lacaille 5729	41	. .	. .	. .	32.5	33.5	35.0	36.6	37.8	49.5	50.9	53.4	45 41.15	— 5.90	27.07	13 46 2.32	17.70
	η Bootis	42	32.3	34.5	35.9	45.9	46.9	48.2	49.4	50.5	0,7	2,0	4.2	47 48.23	+ 0.11	27.07	13 48 15.41	14.27
	Radcliffe 3117	43	. .	. .	. .	57.0	2.6	9.6	16.0	21.4	. .	. .	. .	50 9.32	0.83	27.07	13 50 37.22	3.37
	(* 117) W.	44	11.7	15.1	17.4	34.1	36.0	37.8	40.3	42.1	59.3	1.5	5.1	16 38.22	0.18	27.09	15 17 5.49	9.20
	O. Arg. S. 14624	45	35.5	37.7	38.9	49.3	50.3	51.7	52.9	54.0	4.4	5.6	7.8	23 51.65	+ 0.11	27,09	15 24 18.85	17.47
	Jupiter I	46	5.0	6.6	7.8	9.0	11 4	. .	14.4	17.0	18.2	19.6	20.9	25 42.99	— 0.15	27.09	15 26 9.93	. .
	Jupiter II	47	30,4	32.3	33,5	43.6	44.7	45.9	47.1	48.3	58,3	59.6	1.7	25 45.95	+ 0.10	27.09	15 26 13.14	. .
	O. Arg. S. 14710	48	. .	. .	. .	49.8	51.2	53.5	10.5	13.2	14.7	16.2	17.7	30 5.85	— 29.29	27.09	15 30 3.65	18.25
	Lacaille 6741	49	. .	. .	. .	. .	. .	. .	22.0	25.4	26.9	28.6	30.4	32 26.66	— 43.51	27.09	15 32 10.24	19.96
	a Serpentis	50	55.0	57.2	58.3	8.0	8.9	10.2	11.5	12.4	22.0	23.1	25.2	37 10.16	+ 0.10	+27.09	15 37 37.35	— 14.80

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 5, 0.1	+ 27.03	+ 0.009	+ 0.100

May 5 . . . . n. = — 0^{s}.02.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 5	O. Arg. S. 14904 .	1	17.5	19.6	21.0	31.2	32.2	33.5	34.7	35.8	46.0	47.2	49.3	40 33.45	+ 0.11	+27.09	15 41 0.65	— 17.27
Y.	* — 21° 35′ . .	2	43.2	45.4	46.6	56.8	57.8	59.2	0.4	1.6	11.9	13.2	15.4	44 59.23	+ 0.11	27.09	15 45 26.43	17.58
	Thetis	†3	36.7	37.7	38.8	39.9	41.1	. .	9.6	12.0	13.2	14.5	15.8	47 55.93	— 16.96	27.09	15 48 6.06	. .
	δ Scorpii	4	38.0	40.1	41.4	51.6	52.7	54.0	55.4	56.5	6.8	8.1	10.4	51 54.09	+ 0.11	27.09	15 52 21.29	17.69
	O. Arg. S. 15388 .	5	. .	. .	. .	10.0	11.5	13.5	31.3	33.9	35.4	36.8	38.5	5 26.36	— 29.88	27.09	16 5 23.57	18.75
	δ Ophiuchi . . .	6	. .	. .	. .	1.2	2.3	4.2	19.4	22.0	23.1	24.3	25.7	7 15.28	— 25.97	27.09	16 7 16.40	15.67
	* — 30° 7′ . . .	7	40.7	43.0	44.5	55.5	56.7	58.0	59.4	0.6	11.9	13.1	15.4	9 58.07	+ 0.12	27.09	16 10 25.28	18.82
	γ Pegasi	8	32.5	34.4	35.7	45.6	46.7	47.8	48.9	50.0	0.2	1.3	3.5	5 47.87	0.10	27.10	0 6 15.07	13.29
R.	Polaris	†9	. .	. .	. .	58.5	39.0	29.0	14.0	58.0	. .	. .	. .	8 27.70	5.17	27.02	. . . .	57.65
	Venus I . . .	10	49.3	51.2	52.7	2.2	3.2	4.4	5.5	6.7	16.3	17.6	19.6	41 4.43	+ 0.10	27.03	1 41 31.56	. .
	Venus II . . .	11	28.7	30.1	31.3	32.5	34.9	. .	35.9	38.2	39.5	40.8	42.0	41 5.39	— 0.14	27.03	1 41 32.28	. .
	α Arietis	12	48.1	50.3	51.6	2.0	3.0	4.3	5.6	6.7	17.2	18.5	20.7	59 4.36	+ 0.10	27.03	1 59 31.49	— 14.23
6	Sun I	13	48.2	50.0	51.4	1.6	2.5	3.8	5.1	6.1	16.0	17.2	19.6	54 3.77	0.10	27.04	2 54 30.91	. .
	Sun II	14	1.0	3.1	4.5	14.5	15.4	16.7	18.0	19.1	29.1	30.3	32.6	56 16.75	0.10	27.04	2 56 43.89	. .
	Mercury I . . .	†15	47.3	49.3	50.9	0.9	2.2	3.5	4.8	6.0	16.4	17.7	19.8	12 3.53	0.10	27.05	4 12 30.68	+ 0.34
	α Tauri	†16	25.3	27.3	28.4	38.4	39.4	40.6	41.9	43.0	53.1	54.4	56.5	27 40.75	+ 0.10	27.06	4 28 7.91	— 14.50
	β Orionis	17	. .	. .	. .	31.2	32.3	33.5	34.7	35.8	45.5	46.7	48.9	7 38.58	— 4.91	27.06	5 8 0.73	12.03
Y.	δ Orionis	18	22.1	24.0	25.3	34.8	35.8	37.0	38.2	39.3	48.9	50.0	52.1	24 37.05	+ 0.10	27.13	5 25 4.28	12.93
R.	ε Orionis	19	37.5	39.4	40.7	50.1	51.1	52.3	53.5	54.6	4.2	5.3	7.4	28 52.37	0.10	27.07	5 29 19.54	12.84
	α Orionis	20	7.0	9.0	10.5	20.1	21.0	22.3	23.4	24.5	34.4	35.5	37.5	47 22.29	0.10	27.07	5 47 49.46	13.84
	γ Geminorum . .	21	9.6	11.6	12.9	22.9	23.9	25.2	26.4	27.5	37.5	38.8	40.8	29 25.19	0.10	27.13	6 29 52.42	14.97
Y.	α Canis Majoris . .	22	27.2	29.3	30.6	40.5	41.5	42.8	43.9	45.2	55.2	56.4	58.5	38 42.83	0.11	27.13	6 38 10.07	11.28
	α¹ Geminorum . .	23	11.2	13.4	14.8	26.0	27.3	28.7	30.0	31.2	42.7	44.2	46.7	25 28.75	+ 0.11	27.14	7 25 56.00	16.87
	α² Geminorum . .	24	46.6	48.3	49.8	51.1	53.9	. .	4.9	7.7	9.2	10.7	12.3	25 29.45	— 0.17	27.14	7 25 56.42	16.82
	α Canis Minoris . .	25	30.0	31.9	33.3	42.7	43.7	45.0	46.1	47.2	56.8	58.0	0.1	31 44.98	+ 0.10	27.14	7 32 12.22	13.83
	β Geminorum . .	26	16.6	18.8	20.2	31.0	32.2	33.5	34.8	36.0	47.0	48.3	50.7	36 33.55	+ 0.10	27.14	7 37 0.79	16.19
R.	Saturn I . . .	27	53.0	54.4	55.6	56.8	59.0	. .	59.1	1.5	3.0	4.3	5.5	49 29.22	— 0.14	27.14	12 49 56.22	. .
	Saturn II . . .	28	15.3	17.2	18.6	28.0	29.0	30.2	31.5	32.5	42.1	43.2	45.3	49 30.26	+ 0.10	27.14	12 49 57.50	. .
	θ Virginis	29	15.4	17.3	18.4	28.1	29.1	30.3	31.4	32.5	42.1	43.3	45.5	2 30.31	0.10	27.14	13 2 57.55	15.35
	Polaris, S. P. . .	†30	. .	. .	. .	. .	28.0	38.5	51.0	8.0	. .	. .	. .	8 16.37	16.91	27.14	. . . .	57.97
	α Virginis	31	22.5	24.6	25.8	35.5	36.5	37.7	38.9	40.0	49.8	51.0	53.1	17 37.76	+ 0.11	27.14	13 17 5.01	15.69
	Jupiter I . . .	32	34.4	35.9	37.2	38.4	40.9	. .	43.7	45.9	47.2	48.7	50.1	25 12.24	— 0.14	27.16	15 25 39.26	. .
	Jupiter II . . .	33	59.6	1.7	3.0	12.9	14.1	15.4	16.5	17.6	27.6	28.8	31.3	25 15.32	+ 0.11	27.16	15 25 42.59	. .
	α Cor. Borealis . .	34	14.5	16.8	18.2	28.9	30.0	31.4	32.6	33.8	44.6	45.9	48.4	28 31.37	0.10	27.17	15 28 58.64	12.99
	O. Arg. S. 14839 .	35	3.3	5.4	6.7	17.0	18.1	19.4	20.6	21.9	32.2	33.5	35.6	37 19.43	0.12	27.17	15 37 46.72	17.65
	ε Serpentis . . .	36	23.2	25.2	26.4	35.9	36.9	38.2	39.3	40.3	49.9	51.2	53.2	43 38.15	+ 0.10	27.17	15 44 5.42	14.98
Y.	Polaris	†37	. .	. .	. .	58.0	38.5	27.0	14.5	57.0	27.0	12.0	36.5	4 48.81	— 3 15.66	27.32	. . . .	58.28
7	Sun II	38	53.2	55.3	56.8	6.6	7.6	8.9	10.2	11.3	21.4	22.6	24.6	0 8.95	+ 0.11	27.35	3 0 36.41	— 66.54
	Mercury I . . .	†39	. .	. .	. .	48.4	49.5	50.8	52.0	53.3	. .	. .	. .	13 50.80	+ 0.17	27.42	4 14 18.39	+ 0.35
	α Tauri	†40	38.0	39.2	40.3	41.4	42.7	. .	11.9	14.4	15.6	17.0	18.3	27 57.88	— 17.39	27.43	4 28 7.92	— 14.50
	β Orionis	†41	. .	. .	. .	45.2	46.3	48.0	3.6	6.1	7.3	8.7	9.8	7 59.38	— 26.20	27.45	5 8 0.63	12.02
	α Orionis	42	6.8	9.0	10.2	19.8	20.7	21.9	23.0	24.0	33.8	35.0	37.0	47 21.93	+ 0.10	27.47	5 47 49.50	13.84
	η Virginis	43	16.8	19.0	20.1	29.6	30.6	31.8	33.0	34.0	43.7	44.9	47.0	12 31.86	0.10	27.68	12 12 59.64	14.98
	Dorpat 1636 (1st *)	44	56.5	58.5	59.7	9.4	10.4	11.6	12.7	13.8	23.5	24.6	26.6	15 11.57	+ 0.10	27.68	12 15 39.35	14.92
	Dorpat 1636 (2d *)	45	36.0	37.3	38.5	39.8	42.0	. .	42.3	44.9	46.0	47.3	48.6	15 12.27	— 0.14	27.68	12 15 39.81	14.92
	κ Draconis . . .	46	30.2	36.4	40.0	8.5	11.5	15.1	18.4	21.8	50.7	54.3	0.3	27 15.20	+ 0.49	27.69	12 27 43.08	13.72
	Weisse (2) 636 . .	47	. .	. .	. .	. .	. .	. .	34.3	37.2	38.8	40.3	42.0	30 38.52	— 40.40	27.69	12 30 25.81	14.45
21	Cassiopeæ, S. P. .	48	10.5	3.4	59.2	24.1	20.4	16.0	11.7	7.4	32.6	27.8	20.8	36 15.81	— 0.23	27.70	12 36 43.28	15.36
	B. A. C. 4301 . .	49	24.8	26.9	28.0	37.9	38.9	40.2	41.4	42.5	52.5	53.8	55.9	41 40.25	+ 0.09	27.70	12 42 8.04	— 14.74
	Saturn I . . .	50	1.0	3.0	4.3	13.7	14.8	15.9	17.0	18.3	27.9	29.0	30.9	49 15.98	+ 0.10	+27.70	12 49 43.78	. .

3. Faint.
9. Faint.
15. Faint.
16. Unsteady.
30. Very faint. Invisible on last wires.
37. Hazy.
39. Faint and hazy.
40–41. Unsteady.

			s.
May	6,	n. =	—0.02.
	6–7, 1h. to 6h.		+0.02.
	7, 12h. to 16h.		—0.04.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 6, 5.9	+ 27.13	+ 0.005	+ 0.100
6, 14.4	27.16	0.015	. .
7, 11.2	+ 27.65	+ 0.033	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 7	Saturn II	1	41.3	42.6	43.7	45.0	47.3	. .	47.5	49.8	51.0	52.3	53.7	49 17.42	— 0.14	+27.70	12 49 44.98	. .
Y.	Weisse 926	2	54.1	56.0	57.3	6.8	7.7	9.0	10.1	11.2	20.9	22.0	24.1	54 9.02	+ 0.10	27.71	12 54 36.83	— 15.08
	O. Arg. S. 12629	3	9.2	11.2	12.5	22.6	23.6	24.8	26.0	27.1	37.3	38.4	. .	57 23.27	1.69	27.71	12 57 52.67	15.80
	θ Virginis	4	14.7	16.8	18.0	27.6	28.5	29.7	30.9	31.9	41.7	42.8	45.0	2 29.78	+ 0.10	27.71	13 2 57.59	15.34
	Polaris, S. P.	5	. .	. .	. .	6.0	26.0	38.0	50.0	7.5	. .	. .	. .	8 37.50	— 4.36	27.71	. . . .	58.58
	Weisse 235	6	. .	. .	. .	. .	. .	. .	14.3	16.8	18.0	19.4	20.7	15 17.84	— 33.63	27.72	13 15 11.93	15.38
	Weisse 304	7	1.7	3.8	5.0	14.5	15.5	16.7	17.9	19.1	28.7	29.8	31.8	19 16.77	+ 0.10	27.72	13 19 44.59	15.48
	Weisse 413	8	48.2	50.1	51.4	0.9	1.9	3.1	4.4	5.4	15.1	16.4	18.3	25 3.20	0.10	27.72	13 25 33.02	14.93
	ζ Virginis	9	6.0	8.1	9.4	18.8	19.8	21.0	22.3	23.3	32.9	34.1	36.2	27 21.08	0.10	27.73	13 27 48.91	15.17
	* + 77° 0′	10	36.9	45.4	51.0	33.2	38.3	43.0	48.3	52.9	35.9	41.1	50.2	31 43.29	0.27	27.73	13 32 11.29	7.25
	Weisse (2) 854	11	25.2	27.5	29.0	40.6	41.8	43.0	44.5	45.8	57.5	59.0	1.3	40 43.20	0.09	27.73	13 41 11.02	13.52
	Weisse (2) 910	12	35.0	37.4	38.9	50.4	51.6	53.0	54.6	55.9	7.4	8.9	11.3	42 53.13	0.09	27.73	13 43 20.95	13.46
	Weisse (2) 978	13	. .	. .	. .	21.2	22.2	23.5	24.8	25.9	. .	. .	. .	45 23.52	0.14	27.73	13 45 51.39	14.03
	Weisse (2) 994	14	47.4	49.6	50.9	1.3	2.5	3.8	5.0	6.2	16.7	18.0	20.4	46 3.80	+ 0.09	27.73	13 46 31.62	14.03
	Weisse (2) 1077	15	58.0	0.2	1.6	27.7	29.0	31.1	48.0	50.6	51.9	53.3	54.8	49 31.47	— 16.84	27.74	13 49 42.37	13.94
	* + 76° 54′	16	. .	. .	. .	18.1	22.5	27.8	33.2	37.6	. .	. .	. .	53 27.84	+ 0.52	27.74	13 53 56.10	5.36
	κ Virginis	17	58.8	0.9	2.0	11.8	12.7	14.0	15.1	16.2	25.9	27.2	29.3	5 13.99	+ 0.11	27.75	14 5 41.85	15.96
	Weisse 174	18	. .	. .	. .	24.3	25.3	26.4	27.6	28.7	38.4	39.5	41.6	10 31.48	— 4.87	27.75	14 10 54.36	15.64
	Weisse 209	19	54.4	56.4	57.7	7.0	8.1	9.3	10.5	11.6	21.3	22.4	24.5	12 9.38	+ 0.10	27.75	14 12 37.23	15.65
	β Libræ	20	1.8	3.5	4.9	29.0	30.0	32.0	47.4	49.9	51.0	52.3	53.8	9 32.33	— 15.39	27.78	15 9 44.72	16.12
	ϕ^2 Lupi	21	. .	. .	. .	. .	. .	. .	41.8	45.0	46.7	48.2	49.9	14 46.32	— 41.62	27.78	15 14 32.48	19.32
	O. Arg. N. 15370	22	38.9	42.0	44.0	58.9	0.7	2.6	4.6	6.4	21.4	23.4	26.5	21 2.67	+ 0.11	27.79	15 21 30.57	10.02
	Jupiter I	23	25.2	27.2	28.6	38.7	39.7	41.0	42.2	43.2	53.4	54.5	56.7	24 40.95	+ 0.12	27.79	15 25 8.86	. .
	Jupiter II	24	6.4	7.8	9.3	10.3	12.8	. .	15.9	18.2	19.6	20.9	22.3	24 44.35	— 0.13	27.79	15 25 12.01	. .
	Radcliffe 3415	25	54.6	56.4	57.9	59.4	2.7	. .	21.4	24.4	26.1	27.9	29.5	30 42.03	— 0.21	27.80	15 31 9.62	11.47
	Radcliffe 3416	26	27.8	30.3	32.2	44.5	45.8	47.3	49.0	50.2	2.8	4.5	7.0	30 47.40	+ 0.10	27.80	15 31 15.30	11.47
	B. A. C. 5281	†27	3.4	. .	6.8	17.1	18.0	19.3	20.6	21.8	32.0	. .	35.5	49 19.39	0.12	27.80	15 49 47.31	17.51
	δ Scorpii	28	37.2	39.3	40.7	50.9	52.0	53.3	54.6	55.8	6.2	7.5	9.7	51 53.38	0.12	27.80	15 52 21.30	17.72
	β Scorpii (1st *)	29	51.8	53.9	55.1	5.3	6.3	7.6	8.8	9.9	20.2	21.4	23.6	57 7.63	+ 0.12	27.81	15 57 35.56	17.42
	B. A. C. 5330	30	29.8	31.4	32.6	33.8	36.2	. .	40.0	42.5	43.8	45.2	46.6	57 8.19	— 0.13	27.81	15 57 35.87	17.43
9, R.	Sun I	31	25.6	27.6	29.0	39.0	40.0	41.3	42.6	43.8	53.9	55.0	57.0	5 41.35	.	. .	. . . .	. .
Y	Sun II	32	39.2	41.1	42.6	52.4	53.6	54.8	55.9	57.0	7.1	8.5	10.7	7 54.81	. .	. .	. . . .	. .
14	ρ Leonis	33	53.0	55.0	56.3	5.9	6.9	8.2	9.4	10.5	20.1	21.5	23.5	25 8.21	+ 0.08	. .	. . . .	14.75
	Moon I	†34	50.2	51.5	52.7	53.9	56.3	. .	57.6	0.0	1.3	2.6	4.0	29 27.01	— 0.15	32.72	10 29 59.58	. .
16	α Tauri	35	17.4	19.4	20.6	30.5	31.5	32.8	34.0	35.0	45.2	46.4	48.5	27 32.85	+ 0.06	35.04	. . . .	14.51
R.	O. Arg. S. 11796	36	22.0	24.4	25.6	36.3	37.4	38.8	40.1	41.3	51.9	53.4	55.7	50 38.81	0.20	35.40	11 51 14.41	14.99
	O. Arg. S. 11831	37	14.5	16.6	18.1	28.7	29.8	31.0	32.3	33.5	44.4	45.6	47.8	53 31.12	0.19	35.40	11 54 6.71	15.03
	O. Arg. S. 11848	38	35.3	37.5	38.8	49.3	50.5	51.8	53.0	54.2	4.9	6.3	8.5	54 51.83	0.19	35.41	11 55 27.43	15.08
	o Virginis	39	28.7	30.8	32.0	41.7	42.8	43.9	45.1	46.1	56.0	57.2	59.0	57 43.94	+ 0.07	35.41	11 58 19.42	14.75
	O. Arg. S. 11908	40	. .	. .	. .	43.3	44.7	47.0	3.2	5.8	7.3	8.6	10.2	59 58.76	— 28.08	35.41	12 0 6.09	15.10
	Moon I	41	20.1	22.0	23.6	33.1	34.3	35.4	36.6	37.7	47.5	48.7	50.8	2 35.44	+ 0.11	35.41	12 3 10.96	. .
	O. Arg. S. 12057	42	3.7	5.8	7.2	17.7	18.8	20.2	21.4	22.6	33.0	34.3	36.6	10 20.12	0.18	35.42	12 10 55.72	15.29
	η Virginis	43	9.3	11.1	12.3	21.7	22.8	24.0	25.2	26.3	35.8	36.9	39.3	12 24.06	+ 0.10	35.42	12 12 59.58	14.91
	* — 32° 48′	44	39.8	42.0	43.6	54.9	56.3	57.7	59.0	0.2	11.7	13.1	15.5	14 57.62	— 0.23	35.42	12 15 32.81	15.62
	* — 28° 0′	45	29.4	31.6	33.0	43.7	44.8	46.2	47.6	48.7	59.7	0.9	3.3	19 46.26	+ 0.20	35.43	12 20 21.89	15.58
	q Virginis	46	57.8	59.8	1.1	10.8	11.8	13.0	14.2	15.2	25.0	26.1	28.1	26 12.99	0.13	35.43	12 26 48.55	15.17
	O. Arg. S. 12269	47	6.3	8.3	9.8	20.2	21.4	22.8	24.0	25.1	35.9	37.0	39.4	28 22.75	0.19	35.43	12 28 58.37	15.65
	O. Arg. S. 12286	48	14.4	16.6	17.9	28.5	29.6	30.9	32.0	33.3	44.0	45.3	47.6	29 30.92	+ 0.19	35.43	12 30 6.54	15.67
	χ Virginis	49	. .	. .	. .	53.0	54.1	56.1	11.5	13.9	15.0	16.5	17.7	32 7.22	— 26.11	+35.44	12 32 16.55	— 15.18

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 14, 10.4	+ 32.72	. .	+ 0.100
16, 12.0	+ 35.41	+ 0.050	+ 0.100

34. Through clouds.

May 14, . . n. = — 0.14 s.
16, . . — 0.17.

27. Thetis too faint for observation.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. May 16 R.	O. Arg. S. 12389	1	11.8	14.1	15.5	26.1	27.4	28.7	30.1	31.3	42.0	43.4	45.7	37 28.74	+ 0.20	+35.44	12 38 4.38	— 15.92
	Lacaille 5284	2	8.7	11.0	12.4	23.4	24.6	26.0	27.5	28.7	40.0	41.3	43.7	40 26.13	+ 0.22	35.44	12 41 1.79	16.14
	* — 37° 11′	3	. .	. .	. .	35.0	36.2	37.8	39.3	40.6	52.7	54.3	56.6	42 44.06	— 5.96	35.45	12 43 13.55	16.48
	Saturn I	4	12.3	14.1	15.6	25.0	26.0	27.2	28.4	29.4	39.0	40.3	42.1	47 27.22	+ 0.11	35.45	12 48 2.78	. .
	Saturn II	5	52.5	53.8	55.0	56.2	59.5	. .	58.6	0.9	2.4	3.6	5.0	47 28.75	— 0.13	35.45	12 48 4.07	. .
	O. Arg. S. 12573	6	7.3	9.5	10.9	21.1	22.2	23.5	24.8	25.9	36.5	37.6	39.8	52 23.55	+ 0.18	35.45	12 52 59.18	15.96
	* — 37° 4′	7	8.3	10.7	12.3	24.1	25.5	27.0	28.3	29.6	41.9	43.1	45.9	56 26.97	+ 0.26	35.46	12 57 2.69	16.80
	O. Arg. S. 12655	8	. .	. .	. .	37.0	38.1	39.6	41.0	42.0	53.3	54.5	57.0	59 45.32	— 5.50	35.46	13 0 15.28	16.43
	Comp. θ Virginis	9	45.9	47.3	48.5	49.7	51.8	. .	52.2	54.7	55.8	57.2	58.5	2 22.16	— 0.12	35.46	13 2 57.50	15.32
	θ Virginis	10	7.1	8.9	10.3	19.7	20.8	22.1	23.2	24.3	33.9	35.0	37.3	2 22.05	+ 0.12	35.46	13 2 57.63	15.32
	Polaris, S. P.	†11	. .	. .	. .	57.0	18.0	30.0	41.5	0.0	. .	. .	. .	8 29.30	0.90	35.47	. . . .	63.45
	B. A. C. 4912	12	30.6	32.9	34.2	45.7	46.7	48.3	49.5	50.8	2.2	3.6	6.0	45 48.23	0.23	35.55	14 46 24.01	18.52
	O. Arg. S. 14080	13	10.3	12.6	13.8	24.6	25.5	27.0	28.2	29.4	40.0	41.3	43.4	48 26.92	0.19	35.55	14 49 2.66	17.74
	Ψ Bootis	14	47.5	49.7	51.2	1.8	2.9	4.3	5.6	6.9	17.8	19.0	21.3	58 4.36	0.02	35.56	14 58 39.94	13.18
	O. Arg. S. 14349	15	54.5	56.6	57.9	8.6	9.6	11.0	12.1	13.4	24.0	25.4	27.6	4 10.97	0.19	35.56	15 4 46.72	17.84
	O. Arg. S. 14436	16	42.6	44.8	46.2	56.3	57.4	58.6	59.7	0.9	11.4	12.5	14.7	9 58.65	0.17	35.57	15 10 34.39	17.36
	O. Arg. S. 14459	17	11.6	13.6	14.9	25.3	26.3	27.4	28.7	29.8	40.0	41.2	43.6	11 27.49	0.17	35.57	15 12 3.23	17.37
	O. Arg. S. 14513	18	27.6	29.8	31.0	41.3	42.5	43.7	45.0	46.1	56.6	57.9	0.0	15 43.77	0.18	35.57	15 16 19.52	17.60
	Jupiter I	19	39.4	41.3	42.7	52.6	53.6	54.9	56.0	57.0	7.2	8.4	10.6	19 54.88	+ 0.16	35.58	15 20 30.62	. .
	Jupiter II	20	20.5	21.8	23.1	24.4	26.7	. .	29.8	32.3	33.4	34.8	36.1	19 58.29	— 0.09	35.58	15 20 33.78	. .
	O. Arg. S. 14636	21	12.9	14.9	16.2	26.8	27.9	29.3	30.6	31.7	42.4	43.6	45.9	24 29.29	+ 0.19	35.58	15 25 5.06	18.03
	α Cor. Borealis	22	6.4	8.6	10.0	20.6	21.8	23.0	24.4	25.7	36.3	37.7	40.3	28 23.16	+ 0.03	35.58	15 28 58.77	13.06
	Lacaille 6471	23	. .	. .	. .	31.8	33.0	34.9	36.3	37.6	50.0	51.5	54.3	31 41.18	— 6.16	35.59	15 32 10.61	20.16
	Thetis	†24	30.7	32.5	33.8	. .	. .	. .	. .	. .	57.9	58.9	1.2	37 45.83	+ 0.09	35.59	15 38 21.51	. .
Y. 17	B. A. C. 4070	25	25.5	56.0	15.5	. .	. .	. .	. .	. .	25.0	44.0	15.5	57 20.25	— 1.71	36.61	11 57 55.15	18.70
	ο Virginis	26	27.6	29.6	30.8	40.5	41.5	42.7	43.9	44.9	54.7	55.9	58.0	57 42.74	+ 0.07	36.61	11 58 19.42	14.74
	B. A. C. 4150	27	17.0	56.0	23.0	35.5	56.0	21.0	45.5	8.0	23.0	48.5	30.0	12 22.14	— 1.42	36.62	12 12 57.34	13.68
	χ Virginis	28	24.7	26.7	28.0	37.5	38.6	39.7	41.0	41.9	51.7	52.8	55.0	31 39.78	+ 0.12	36.64	12 32 16.54	15.18
	Saturn I	†29	40.5	42.0	43.2	44.4	46.6	. .	46.8	49.2	50.5	51.7	53.0	47 16.79	— 0.13	36.65	12 47 53.31	. .
	Saturn II	30	2.5	4.7	5.9	15.3	16.5	17.7	18.8	20.0	29.6	30.7	32.6	47 17.66	+ 0.11	36.65	12 47 54.42	. .
	Moon I	31	52.0	54.3	55.5	5.2	6.3	7.5	8.7	9.8	19.8	21.1	23.2	51 7.58	0.13	36.65	12 51 44.36	. .
	50 Virginis	32	49.3	51.5	52.7	2.4	3.4	4.6	5.7	6.9	16.7	17.8	19.8	2 4.62	0.13	36.66	13 2 41.41	15.50
	Polaris, S. P.	33	. .	. .	. .	58.0	16.0	29.0	42.0	59.0	. .	. .	. .	8 28.80	0.90	36.66	. . . .	64.10
	ε Virginis	34	12.9	14.8	16.2	26.0	26.9	28.2	29.4	30.4	40.3	41.2	43.3	17 28.15	0.13	36.67	13 18 4.95	14.65
	O. Arg. S. 13663	35	51.7	53.9	55.2	5.6	6.8	8.0	9.4	10.6	21.4	22.6	24.9	21 8.19	0.19	36.72	14 21 45.10	17.39
	ρ Bootis	36	6.8	9.1	10.5	21.5	22.7	24.2	25.4	26.6	38.0	39.3	41.5	25 24.15	0.02	36.72	14 26 0.89	13.17
	ε Bootis	37	12.0	14.4	15.7	26.5	27.6	28.9	30.1	31.2	42.3	43.6	45.7	38 28.91	0.02	36.73	14 39 5.66	13.35
	Jupiter I	38	7.6	9.5	10.8	20.9	22.0	23.2	24.4	25.5	35.5	36.7	38.9	19 23.18	+ 0.16	36.76	15 20 0.10	. .
	Jupiter II	39	48.6	50.0	51.5	52.7	55.2	. .	57.9	0.6	1.8	3.1	4.5	19 56.59	— 0.09	36.76	15 20 33.26	. .
	α Coronæ Borealis	†40	5.2	7.2	8.7	19.5	20.5	22.0	23.4	24.5	35.5	36.6	38.9	28 22.00	+ 0.03	36.76	15 28 58.79	13.07
R. 18	Sun I	41	44.0	45.9	47.3	57.6	58.6	59.8	1.0	2.1	12.5	13.7	15.7	40 59.84	0.07	37.12	3 41 37.03	. .
	Sun II	42	58.7	0.7	2.2	12.4	13.4	14.7	15.9	17.0	27.3	28.6	30.8	43 14.70	0.07	37.12	3 43 51.89	. .
	β Orionis	43	8.3	10.2	11.3	21.0	22.0	23.3	24.5	25.6	35.3	36.5	38.5	8 23.32	0.12	37.18	. . . .	12.00
	β Tauri	44	48.5	50.8	52.3	3.0	4.1	5.5	6.9	8.0	18.9	20.3	22.4	17 5.52	+ 0.06	37.18	. . . .	. .
Y. 19	Polaris, S. P.	†45	44.0	49.0	1.0	13.0	36.0	. .	. .	. .	. .	. .	. .	30 52.60	—22 23.53	38.64	. . . .	65.54
	Lacaille 5668	46	20.2	21.3	22.9	24.2	25.5	. .	58.6	1.4	2.8	4.5	6.0	37 42.74	— 19.69	38.65	13 38 1.70	17.33
	Lacaille 5688	47	41.4	43.8	45.3	56.8	57.9	59.3	0.7	2.0	13.7	15.1	17.5	40 59.41	+ 0.19	38.65	13 41 38.25	17.53
	Lacaille 5708	48	6.1	8.5	10.1	21.4	22.5	23.8	25.2	26.5	38.0	39.2	41.7	43 23.91	0.19	38.66	13 44 2.76	17.44
	η Bootis	49	20.9	23.0	24.2	34.3	35.3	36.4	37.7	38.9	49.1	50.4	52.6	47 36.62	+ 0.07	38.66	13 48 15.35	14.24
	Lacaille 5773	50	41.1	42.2	43.5	44.8	46.0	. .	17.0	19.7	21.0	22.5	23.9	50 2.17	— 18.43	+38.66	13 50 22.40	— 16.96

11. Sky cloudy.
24. Very faint.
29. Through clouds.
40. Unsteady.
45 Steady.

s.
May 17 . . . n. = — 0.17.
18–19 . . . — 0.11.

r.
May 17, 15h. Image east 0.22. Clamp east.
Image west 0.14. Clamp west.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 17, 14.0	+ 36.70	+ 0.043	+ 0.100
18, 5.2	37.18	0.040	. .
19, 15.1	+ 38.71	+ 0.060	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	h. m.	m. s.	s.	h. m. s.	s.
1864. May 19 Y.	O. Arg. S. 13357 .	1	26.1	28.3	29.8	40.5	41.6	42.9	44.2	45.5	56.5	57.7	0.0	56 43.01	+ 0.17	+38.67	13 57 21.85	— 17.27
	* — 32° 23′ . .	2	31.0	33.3	34.7	46.0	47.1	48.8	50.0	51.3	2.6	4.0	6.4	59 48.66	+ 0.19	38.67	14 0 27.52	17.75
	Lacaille 5839 . .	3	.	. .	. .	33.5	34.9	37.4	55.2	58.0	59.5	0.8	2.5	2 50.22	— 30.31	38.67	14 2 58.58	17.70
	κ Virginis	4	. .	. .	. .	15.1	16.2	18.4	33.6	36.2	37.3	38.5	39.8	5 29.39	— 26.27	38.68	14 5 41.80	15.98
	λ Virginis	5	54.5	56.5	57.8	7.5	8.5	9.7	10.9	12.0	21.9	23.0	25.2	11 9.77	+ 0.13	38.69	14 11 48.59	16.24
	Lacaille 5923 . .	6	16.9	19.3	20.7	31.8	33.1	34.6	36.0	37.2	48.7	50.0	52.4	15 34.61	0.19	38.69	14 16 13.49	18.03
	ρ Bootis	7	4.6	7.0	8.5	19.5	20.7	22.1	23.7	24.9	36.2	37.5	39.8	25 22.23	0.05	38.70	14 26 0.98	13.17
	O. Arg S. 13759 .	†8	21.7	23.8	25.3	35.8	36.8	38.2	39.4	40.6	51.3	52.6	54.9	28 38.22	0.16	38.70	14 29 17.08	17.47
	O. Arg. S. 13797 .	9	10.5	12.8	14.1	24.9	26.0	27.3	28.6	29.8	40.6	41.8	44.2	31 27.33	0.17	38.71	14 32 6.21	17.64
	Moon I	10	35.3	37.3	38.7	48.8	49.8	51.1	52.5	53.6	3.8	5.1	7.3	35 51.21	0.14	38.71	14 36 30.06	. .
	56 Hydræ	11	57.1	59.3	0.7	11.3	12.3	13.8	15.0	16.1	26.8	28.1	30.3	39 13.71	0.16	38.71	14 39 52.58	17.62
	α Libræ	12	30.6	32.6	33.8	43.8	44.9	46.1	47.4	48.4	58.4	59.6	1.7	42 46.12	0.13	38.72	14 43 24.97	16.67
	B. A. C. 4912 . .	13	27.2	29.6	31.1	42.4	43.5	45.1	46.5	47.7	59.1	0.5	2.9	45 45.05	+ 0.19	38.72	14 46 23.96	18.53
	β Ursæ Minoris . .	14	37.0	44.4	49.2	25.0	28.3	33.3	38.0	41.8	18.2	22.8	30.4	50 33.49	— 0.02	38.73	14 51 12.20	2.45
	O. Arg. S. 14230 .	15	56.2	58.4	59.7	10.3	11.4	12.7	14.0	15.2	25.9	27.1	29.4	57 12.75	+ 0.16	38.73	14 57 51.64	17.80
	ι¹ Libræ	16	37.2	39.4	40.6	50.7	51.8	53.0	54.2	55.4	5.6	7.0	9.0	3 53.08	0.14	38.74	15 4 31.96	17.22
	Lacaille 6291 . .	17	40.0	42.2	43.6	54.3	55.4	56.8	58.0	59.2	10.3	11.5	13.8	6 56.83	+ 0.17	38.74	15 7 35.74	18.11
	Jupiter I . . .	18	42.4	43.8	45.0	46.2	48.5	. .	51.5	54.0	55.3	56.6	58.0	18 20.13	— 0.11	38.75	15 18 58.77	. .
	Jupiter II . . .	19	7.5	9.5	10.8	20.8	21.8	23.0	24.3	25.3	35.5	36.7	38.9	18 23.10	+ 0.14	38.75	15 19 1.99	. .
	Lacaille 6405 . .	†20	51.9	54.3	55.6	7.2	8.4	9.9	11.2	12.5	24.1	25.4	27.8	22 9.85	0.19	38.76	15 22 48.80	19.09
	Lacaille 6421 . .	†21	46.3	48.9	50.1	1.4	2.6	4.1	5.5	6.7	18.1	19.6	22.0	25 4.12	0.19	38.76	15 25 43.07	19.04
	α Coronæ Borealis .	†22	3.2	5.5	6.7	17.4	18.4	19.9	21.2	22.4	33.3	34.6	37.0	28 19.97	0.06	38.76	15 28 58.79	13.08
	Lacaille 6516 . .	23	4.4	6.6	8.0	18.8	19.8	21.2	22.5	23.7	34.6	35.7	38.1	37 21.22	+ 0.17	38.77	15 38 0.16	18.46
	B. A. C. 5220 . .	24	. .	. .	. .	0.7	2.0	4.4	20.9	23.7	25.0	26.4	27.7	40 16.35	— 28.18	38.77	15 40 26.94	17.95
	Lacaille 6562 . .	25	11.8	13.0	14.4	15.6	16.8	. .	49.2	52.0	53.3	54.7	56.3	43 33.71	19.11	38.78	15 43 53.38	18.75
	Lacaille 6576 . .	26	. .	. .	. .	24.5	25.8	28.0	44.7	47.4	48.7	50.0	51.4	45 40.06	— 28.35	38.78	15 45 50.49	18.07
	Lacaille 6624 . .	27	22.7	24.9	26.5	37.8	38.9	40.3	41.7	43.0	54.5	55.9	58.4	50 40.42	+ 0.19	38.78	15 51 19.39	19.33
	Lacaille 6647 . .	28	22.4	24.5	26.1	36.8	37.9	39.1	40.4	41.8	52.7	54.1	56.5	53 39.30	0.17	38.79	15 54 18.26	18.74
	β Scorpii	†29	40.7	43.0	44.2	54.3	55.4	56.7	57.8	59.0	9.2	10.3	12.7	56 56.66	0.14	38.79	15 57 35.59	17.57
	α Scorpii	†30	12.5	14.8	16.3	26.7	27.9	29.1	30.5	31.8	42.6	43.7	46.0	20 29.26	+ 0.17	38.82	16 21 8.25	18.52
R.	Venus I	†31	56.8	58.1	59.3	0.7	3.2	. .	5.4	7.9	9.0	10.5	12.0	46 34.29	— 0.18	. .	. . . .	. .
	Venus II . . .	†32	19.2	21.2	22.6	32.5	33.5	34.8	35.9	36.9	47.0	48.2	50.5	46 34.75	+ 0.07	. .	. . . .	. .
20	Sun I	†33	40.3	42.3	43.7	54.0	55.2	56.6	57.8	58.9	9.3	10.4	12.5	49 56.46	0.07	. .	. . . .	. .
	Sun II	†34	55.9	58.0	59.3	9.3	10.5	11.7	13.0	14.2	24.4	25.7	27.9	51 11.81	+ 0.07	. .	. . . .	. .
	Polaris, S. P. . .	†35	. .	. .	. .	57.0	21.0	30.0	45.0	0.0	.	. .	. .	8 30.60	— 1.53	39.40	. . . .	66.32
	ζ Virginis	36	54.4	56.5	57.7	7.2	8.2	9.4	10.6	11.6	21.3	22.5	24.4	27 9.44	+ 0.10	39.38	13 27 48.92	15.15
	O. Arg. S. 13156 .	37	21.9	24.4	25.9	36.6	37.8	39.4	40.5	42.0	52.7	54.4	56.9	40 39.32	0.18	39.37	13 41 18.87	17.19
	η Bootis	38	20.0	22.2	23.3	33.5	34.6	35.8	37.1	38.2	48.4	49.8	51.8	47 35.88	+ 0.07	39.37	13 48 15.32	14.24
	8 Libræ	39	56.9	58.3	59.6	0.7	3.2	. .	5.4	8.0	9.3	10.7	12.0	42 34.43	— 0.12	39.33	14 43 13.64	16.70
	α Libræ	40	30.1	32.1	33.5	43.1	44.3	45.4	46.6	47.8	57.9	59.0	1.2	42 45.55	+ 0.13	39.33	14 43 25.01	16.67
	ψ. Bootis	41	43.8	45.9	47.3	58.0	59.3	0.5	2.0	3.0	14.0	15.0	17.5	58 0.57	0.06	39.32	14 58 39.95	13.18
	ι¹ Libræ	42	36.9	38.9	40.2	50.3	51.4	52.7	53.0	54.8	50.6	6.3	8.5	3 52.63	+ 0.14	39.32	15 4 32.09	17.22
	Jupiter I . . .	43	11.3	12.8	13.9	15.1	17.5	. .	20.3	22.8	24.1	25.5	26.9	17 49.02	— 0.11	39.31	15 18 28.22	. .
	Jupiter II . . .	44	36.4	38.4	39.8	49.8	50.8	52.1	53.4	54.3	4.5	5.6	7.8	17 52.08	+ 0.14	39.31	15 18 31.53	. .
	Moon I	45	34.5	36.6	38.0	47.4	49.5	50.8	51.9	53.2	3.6	4.9	7.1	32 50.68	0.14	39.30	15 33 30.12	. .
	β Scorpii	46	40.4	42.5	43.7	54.0	55.0	56.2	57.4	58.5	8.7	10.0	12.3	56 56.25	+ 0.14	39.28	15 57 35.67	17.58
	B. A. C. 5330 . .	47	18.7	20.0	21.3	22.5	24.9	. .	28.8	31.1	32.4	34.0	35.3	56 56.90	— 0.11	39.28	15 57 36.07	17.59
	ν Scorpii, (1st *) .	48	50.9	52.2	53.6	54.8	57.3	. .	0.8	3.4	4.6	6.1	7.4	3 29.11	— 0.11	39.28	16 4 8.28	17.57
	ν Scorpii, (2d *) .	49	14.1	16.2	17.5	27.6	28.6	29.9	31.2	32.3	42.5	43.6	45.9	3 29.95	+ 0.14	39.28	16 4 9.37	17.57
	δ Ophiuchi . . .	50	22.3	24.3	25.5	35.0	36.0	37.2	38.5	39.4	48.9	50.2	52.1	6 37.22	+ 0.11	+39.28	16 7 16.61	— 15.86

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 20, 14.8	+ 39.33	— 0.040	+ 0.100

8. Faint.
20-21. Faint.
22. Unsteady.
29. Unsteady.
30. Unsteady,
31-32. Faint,
33. Serrated and flaming.
34. Better defined,
35. Unsteady.

May 20, n. = — 0.11 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 21	Saturn I	1	22.4	24.5	25.8	35.3	36.3	37.5	38.7	39.6	49.3	50.4	52.5	46 37.48	+ 0.10	+39.87	12 47 17.45	. .
Y.	Saturn II	2	2.6	4.0	5.3	6.5	8.7	. .	8.9	11.2	12.5	13.7	15.1	46 38.85	— 0.14	39.87	12 47 18.58	. .
	α Canum Venaticorum	3	43.0	45.6	47.3	59.4	0.6	2.3	3.9	5.2	17.5	19.0	21.7	49 2.32	+ 0.04	39.87	12 49 42.23	— 13.81
	Polaris, S. P.	4	. .	. .	. .	0.0	20.0	32.0	42.5	41.0	30.0	43.0	22.0	5 8.81	3 20.92	39.86	. . . .	67.11
	ζ Virginis	5	53.9	55.9	57.2	6.7	7.6	8.9	10.0	11.0	20.7	21.9	24.0	27 8.89	0.10	39.85	13 27 48.84	15.14
	β Libræ	6	49.9	52.0	53.2	2.7	3.7	4.9	6.0	7.2	17.0	18.1	20.2	9 4.99	0.12	39.80	15 9 44.91	16.23
	Jupiter I	†7	2.8	4.8	6.1	16.0	17.0	18.3	19.7	20.7	30.7	31.8	34.1	17 18.36	+ 0.14	39.79	15 17 58.29	. .
	Jupiter II	8	43.7	45.2	46.5	47.8	51.1	. .	53.1	55.5	56.8	58.2	59.7	17 21.76	— 0.11	39.79	15 18 1.44	. .
	β Scorpii	9	39.8	42.0	43.3	53.4	54.5	55.8	56.9	58.0	8.2	9.4	11.6	56 55.72	+ 0.14	39.77	15 57 35.63	17.59
	ν Scorpii, (2d *)	10	13.4	15.7	17.0	27.0	28.0	29.3	30.5	31.6	41.8	43.0	45.3	3 29.33	+ 0.14	39.77	16 4 9.24	17.58
	Moon II	†11	58.3	59.3	0.6	1.8	3.0	. .	34.0	36.7	38.0	39.4	40.8	35 19.19	— 18.36	39.76	16 35 40.59	. .
22	Weisse 854	12	. .	. .	. .	34.4	35.6	37.9	53.0	55.4	56.7	57.9	59.4	44 48.79	— 26.01	40.08	16 45 2.86	16.14
	κ Ophiuchi	13	21.7	23.6	25.0	34.7	35.8	36.9	38.0	39.1	48.8	49.9	52.0	50 36.86	+ 0.06	40.08	16 51 17.00	14.46
	θ Ophiuchi	14	46.5	48.7	49.9	0.6	1.8	2.9	4.3	5.5	16.2	17.5	19.6	13 2.05	0.23	40.08	17 13 25.36	18.50
	B. A. C. 5868	15	54.7	56.8	58.1	8.6	9.7	10.9	12.2	13.3	23.9	25.2	27.3	16 10.97	0.23	40.08	17 16 51.28	18.40
	b Ophiuchi,	16	11.0	13.1	14.5	25.0	26.2	27.5	28.8	29.9	40.3	41.6	43.9	17 27.44	0.23	40.08	17 18 7.75	18.39
	Lacaille 7330	17	30.0	32.4	33.8	45.3	46.5	48.0	49.4	50.6	2.2	3.6	6.1	22 47.99	+ 0.30	40.08	17 23 28.37	19.97
	Lacaille 7347	18	. .	. .	. .	10.2	11.4	12.7	14.0	15.2	26.6	28.0	30.5	25 18.58	— 5.56	40.08	17 25 53.10	19.57
	Moon II	19	3.1	4.7	6.1	7.4	9.9	. .	15.9	18.7	20.0	21.6	22.8	36 42.91	+ 0.08	40.08	17 37 23.07	. .
		20	26.4	28.5	29.8	40.5	41.5	42.7	44.0	45.3	55.8	57.0	59.3					
	B. A. C. 6032	21	34.8	37.2	38.6	49.7	50.9	52.4	53.7	54.9	6.1	7.6	9.8	42 52.34	0.27	40.08	17 43 32.69	19.43
	O. Arg. S. 17376	22	20.0	22.3	23.6	33.9	35.0	36.3	37.5	38.8	49.2	50.5	52.5	47 36.33	0.22	40.08	17 48 16.63	18.25
	4 Sagittarii	23	36.4	38.4	39.8	50.3	51.4	52.6	53.8	55.0	5.4	6.6	8.8	50 52.59	0.22	40.08	17 51 32.89	18.30
	* — 22° 50′	24	48.6	50.5	51.9	2.2	3.3	4.6	5.8	7.0	. .	. .	.	54 59.24	5.63	40.08	17 55 44.95	18.16
	O. Arg. S. 17648	25	18.9	21.0	22.3	32.5	33.6	34.8	36.0	37.1	47.5	48.8	51.0	58 34.86	0.21	40.08	17 59 15.15	17.96
	O. Arg. S. 17681	26	26.7	28.9	30.3	40.6	41.6	42.8	44.1	45.3	55.6	56.8	59.0	59 42.88	+ 0.21	40.08	18 0 23.17	— 17.94
	δ Ursæ Minoris	27	32.0	4.5	25.0	5.0	23.0	43.0	3.5	19.5	3.0	23.5	57.0	15 43.55	— 2.69	40.08	. . . .	+ 69.59
	1 Aquilæ	28	55.9	58.1	59.4	9.1	10.0	11.2	12.5	13.6	23.2	24.5	26.5	27 11.27	+ 0.14	40.08	18 27 51.49	— 16.25
	51 Cephei, S. P.	29	. .	. .	. .	36.0	16.5	51.5	28.0	6.0	. .	. .	. .	34 51.60	2.33	40.08	6 35 34.01	116.67
	α Arietis	†30	35.6	37.7	39.0	49.4	50.4	51.7	53.0	54.0	4.6	5.9	8.1	58 51.76	0.00	40.02	1 59 31.78	14.52
R.	Venus I	†31	46.2	48.4	49.7	59.4	0.5	1.8	3.0	4.0	14.2	15.4	17.4	1 1.82	+ 0.03	40.02	3 1 41.87	. .
	Venus II	†32	25.0	26.5	27.8	29.0	31.4	. .	34.0	36.5	37.9	39.2	40.6	1 2.79	— 0.22	40.02	3 1 42.59	. .
23	Sun II	†33	35.0	36.4	37.6	39.0	41.3	. .	11.1	12.2	13.3	14.6	15.7	2 55.62	+ 17.82	40.01	4 3 53.45	67.82
	β Orionis	†34	. .	. .	. .	. .	. .	. .	51.0	53.5	54.7	56.0	57.4	7 54.52	— 33.87	40.01	5 8 0.66	12.00
	Moon II	35	36.8	38.9	40.1	50.7	51.8	53.2	54.5	55.6	6.2	7.4	9.4	38 53.15	+ 0.20	39.94	18 39 33.29	. .
	σ Sagittarii	†36	56.6	58.6	0.0	10.8	11.9	13.2	14.4	15.7	26.4	27.9	29.9	46 13.22	0.24	39.94	18 46 53.40	18.42
	ξ^2 Sagittarii	37	44.0	46.2	47.5	57.8	58.8	0.1	1.4	2.5	12.9	14.0	16.2	49 0.13	+ 0.21	39.94	18 49 40.28	17.70
	Venus I	38	15.9	17.2	18.5	19.7	22.2	. .	25.3	27.5	28.8	30.3	31.5	5 53.69	— 0.22	40.00	3 6 33.47	. .
	Venus II	39	38.5	40.6	42.0	51.7	53.0	54.3	55.5	56.6	6.7	7.8	10.0	5 54.25	+ 0.03	40.00	3 6 34.28	. .
24	Sun I	40	43.4	45.5	46.8	57.1	58.0	59.4	0.8	1.8	12.1	13.3	15.5	4 59.43	0.01	40.01	4 5 39.45	. .
	Sun II	41	59.2	1.2	2.6	12.9	13.9	15.2	16.4	17.5	28.0	29.2	31.5	7 15.24	0.01	40.01	4 7 55.26	. .
	α Canis Majoris	42	14.0	15.9	17.3	27.1	28.2	29.5	30.8	31.8	41.8	43.1	45.2	38 29.52	0.18	40.03	6 30 9.73	11.13
	γ Aquilæ	†43	. .	. .	. .	7.9	8.9	10.2	11.4	12.5	. .	. .	. .	40 10.19	+ 0.10	40.12	19 40 50.41	14.16
	Moon II	44	.	. .	. .	7.9	8.9	10.2	11.4	12.5	23.0	24.3	26.4	40 15.58	— 5.15	40.12	19 40 50.55	. .
	β Aquilæ	45	45.5	47.7	48.7	58.1	59.1	0.4	1.7	2.7	12.3	13.5	15.8	48 0.50	+ 0.07	40.12	19 48 40.69	— 14.54
	λ Ursæ Minoris	†46	. .	. .	. .	53.0	44.0	50.0	45.0	46.0	. .	. .	.	59 47.60	— 5.85	40.12	. . . .	+ 210.94
	α^2 Capricorni	47	37.5	39.6	40.9	50.5	51.5	52.8	54.0	55.1	4.8	6.0	8.4	9 52.83	+ 0.16	40.12	20 10 33.11	— 16.17
	ρ Capricorni	48	. .	14.6	15.9	26.2	27.3	28.6	29.9	30.9	41.1	42.1	44.4	20 30.10	— 1.38	40.12	20 21 8.84	— 16.54
	Venus I	49	. .	. .	. .	43.9	45.0	46.2	47.5	48.5	58.5	59.8	1.9	10 51.41	5.16	40.18	3 11 26.43	. .
	Venus II	50	. .	. .	. .	. .	. .	. .	18.7	21.1	22.5	23.9	25.2	11 22.28	— 35.22	+40.18	3 11 27.24	. .

7. Faint.
11. Under clouds.
30. Faint.
31–32. Faint, through clouds.
33. Through clouds.
34. Through clouds.
36. Faint.
43. Blurred.
46. Very faint.

		s.
May 21,	. . . n. =	— 0.11.
22,	. . .	0.26.
23–25,	. . .	0.26.
27–29,	. . .	— 0.15.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 21, 14.4	+ 39.82	— 0.030	+ 0.100
22, 17.5	40.08	+ 0.000	. .
23, 8.6	39.99	— 0.005	. .
24, 17.4	+ 40.10	+ 0.007	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 25	Sun I	1	45.6	47.7	49.0	59.1	0.1	1.5	2.7	3.9	14.4	15.6	17.7	9 1.57	+ 0.01	+40.18	4 9 41.76	. .
R.	Sun II	2	1.5	3.6	4.9	15.1	16.2	17.5	18.7	19.8	30.2	31.5	33.7	11 17.52	0.01	40.18	4 11 57.71	. .
	α Canis Majoris . .	3	13.8	15.7	17.2	27.0	28.1	29.3	30.6	31.6	41.7	42.9	45.0	38 29.35	0.18	40.20	. . . .	— 11.12
27	Sun I	4	51.7	54.0	55.2	5.4	6.5	7.8	9.0	10.2	20.6	21.7	24.1	17 7.84	. .	. .	. . . .	. .
	Sun II	5	7.8	10.0	11.5	21.6	22.6	24.0	25.3	26.4	36.7	37.9	40.2	19 24.00	. .	. .	. . . .	. .
	α Aquarii	6	55.0	57.0	58.2	7.8	8.8	10.0	11.2	12.2	21.6	22.9	24.9	58 9.96	0.10	40.03	21 58 50.09	14.54
	Moon II	7	50.9	52.9	54.1	3.9	4.9	6.2	7.4	8.5	18.5	19.6	21.7	33 6.24	0.11	40.03	22 33 46.38	. .
	α Piscis Australis .	8	12.0	14.3	15.6	26.8	27.9	29.4	30.7	31.8	42.9	44.4	46.6	49 29.31	+ 0.20	40.03	22 50 9.54	15.15
Y.	Polaris	†9	. .	. .	. .	. .	. .	. .	59.5	. .	25.0	18.0	. .	31 54.17	—22 20.89	40.04	. . . .	. .
	β Arietis . . .	10	50.7	52.3	53.5	54.8	57.2	. .	1.2	3.8	5.0	6.5	7.8	46 29.12	— 0.07	40.04	1 47 9.09	14.41
		11	13.0	15.2	16.5	26.6	27.8	29.0	30.2	31.3	41.4	42.8	44.9					
	α Arietis	12	35.6	37.7	39.1	49.4	50.6	51.9	53.0	54.2	4.6	5.8	8.2	58 51.82	+ 0.04	40.04	1 59 31.90	14.63
	Venus I	13	54.0	55.3	56.7	57.9	0.5	. .	3.6	6.2	7.5	8.9	10.3	25 32.09	— 0.10	40.04	3 26 12.03	. .
	Venus II . . .	14	16.8	18.8	20.1	30.3	31.3	32.5	33.8	34.8	45.0	46.3	48.4	25 32.55	+ 0.15	40.04	3 26 12.74	. .
28	Sun I	15	55.3	57.4	58.7	. .	. .	. .	. .	. .	24.2	25.5	27.7	21 11.47	0.01	40.04	4 21 51.52	. .
	Sun II	16	11.8	13.8	15.3	25.5	26.7	27.9	29.2	30.2	40.7	41.9	44.0	23 27.91	+ 0.05	40.04	4 24 8.00	. .
	β Orionis	17	18.4	19.4	20.5	21.6	22.7	. .	51.3	53.5	54.7	56.0	57.3	7 37.54	— 16.87	40.04	5 8 0.71	12.01
	α Canis Majoris . .	18	14.0	16.2	17.3	27.2	28.2	29.5	30.7	31.8	41.8	43.1	45.2	38 29.55	+ 0.15	40.04	6 39 9.74	11.11
	α Aquarii	19	54.5	56.8	57.9	7.2	8.1	9.5	10.9	11.9	21.5	22.6	24.6	58 9.59	0.10	40.44	21 58 50.15	14.57
	α Piscis Australis .	20	11.5	13.7	15.2	26.4	27.6	28.8	30.1	31.4	42.5	43.9	46.3	49 28.85	0.20	40.44	22 50 9.51	15.17
	α Pegasi	21	5.2	7.3	8.5	18.2	19.5	20.6	21.8	23.0	33.0	34.1	36.3	57 20.68	0.07	40.44	22 58 1.21	13.87
	Moon II	22	41.0	43.0	44.4	54.3	55.2	56.4	57.5	58.6	8.5	9.7	11.9	27 56.41	0.10	40.44	23 28 36.97	. .
29	α Andromedæ . .	23	25.9	28.2	29.7	40.3	41.5	43.0	44.3	45.6	56.3	57.8	0.0	0 42.96	0.03	40.48	0 1 23.47	14.09
	γ Pegasi	24	19.7	21.8	23.2	32.9	34.0	35.2	36.4	37.6	47.5	48.7	50.8	5 35.25	0.07	40.48	0 6 15.80	13.96
	Moon II	25	16.6	18.7	20.0	29.8	30.9	32.0	33.2	34.4	44.3	45.5	47.7	22 32.10	0.11	40.48	0 23 12.69	. .
30	Sun I	†26	4.0	6.0	7.5	17.8	18.8	20.2	21.5	22.5	33.0	34.5	36.5	29 20.21	0.09	40.42	4 30 0.72	. .
R.	Sun II	†27	20.7	22.9	24.3	34.5	35.5	36.8	38.1	39.2	49.7	51.0	53.2	31 36.90	+ 0.09	40.42	4 32 17.41	. .
	Polaris, S. P. . .	28	42.0	23.0	30.0	.	. .	. .	. .	. .	. .	. .	. .	17 31.67	— 8 56.54	40.43	. . . .	. .
	O. Arg. S. 13085 .	29	23.1	25.4	26.8	37.4	38.7	40.0	41.2	42.5	53.4	54.7	57.1	35 40.03	+ 0.14	40.43	13 36 20.60	16.90
	O. Arg. S. 13156 .	30	20.8	23.0	24.4	35.5	36.6	38.0	39.6	40.7	51.8	53.0	55.5	40 38.08	0.15	40.43	13 41 18.66	17.15
	O. Arg. S. 13215 .	31	8.8	11.0	12.3	22.8	23.9	25.3	26.6	27.7	38.5	39.7	42.0	45 25.33	0.14	40.43	13 46 5.90	16.92
	η Bootis	32	18.8	20.9	22.3	32.3	33.4	34.7	35.9	37.1	47.4	48.4	50.8	47 34.73	0.09	40.43	13 48 15.25	14.19
	Brisbane 4727 . .	33	6.8	9.3	10.9	22.6	23.8	25.4	26.9	28.3	40.3	41.6	44.4	52 25.48	0.16	40.43	13 53 6.07	18.03
	O. Arg. S. 13357 .	34	24.3	26.6	27.9	28.6	39.7	41.3	42.5	43.6	54.8	56.0	58.4	56 41.25	0.14	40.43	13 57 21.82	17.25
	* — 32° 24′ . .	35	29.3	31.5	33.0	44.3	45.5	46.9	48.3	49.5	0.9	2.2	4.8	59 46.93	0.15	40.43	14 0 27.51	17.73
	50 Hydræ	36	5.2	7.5	8.8	19.3	20.4	21.8	23.1	24.2	35.2	36.5	38.7	4 21.88	0.14	40.43	14 5 2.45	17.26
	Lacaille 5872 . .	37	21.4	23.6	25.0	36.5	37.6	39.1	40.4	41.8	53.2	54.6	56.9	7 39.10	0.15	40.43	14 8 19.68	17.89
	O. Arg. S. 13541 .	38	23.5	25.6	26.9	37.8	38.9	40.2	41.4	42.7	53.5	54.9	57.4	11 40.25	+ 0.14	40.43	14 12 20.82	17.45
	O. Arg. S. 13561 .	39	. .	. .	. .	30.3	31.5	32.8	34.3	35.3	46.2	47.5	49.9	13 38.48	— 5.46	40.43	14 14 13.45	17.53
	Lacaille 5923 . .	40	15.0	17.5	18.9	30.0	31.4	32.7	34.3	35.4	46.9	48.4	50.7	15 32.84	+ 0.15	40.43	14 16 13.42	18.02
	Lacaille 5932 . .	41	31.3	33.6	34.9	46.4	47.5	49.0	50.4	51.5	2.9	4.3	6.8	16 48.96	0.15	40.43	14 17 29.54	18.03
	O. Arg. S. 13663 .	42	47.9	50.0	51.5	2.0	3.2	4.4	5.7	6.8	17.4	18.8	21.0	21 4.43	0.13	40.43	14 21 44.99	17.40
	* — 25° 32′ . .	43	9.6	11.6	13.0	23.8	24.8	26.0	27.4	28.5	39.3	40.6	42.9	22 26.14	0.13	40.43	14 23 6.70	17.43
	ρ Bootis	44	2.8	5.2	6.7	17.8	19.0	20.4	21.7	23.0	34.2	35.4	38.0	25 20.38	+ 0.09	40.43	14 26 0.90	13.12
	Lalande 26560 . .	45	. .	. .	. .	2.0	3.2	5.7	23.4	26.1	27.5	29.0	30.5	26 18.42	— 30.21	40.43	14 26 28.64	13.16
	O. Arg. S. 13813 .	46	14.5	16.2	17.6	18.7	21.5	. .	28.0	30.7	32.2	33.5	34.9	31 54.78	— 0.13	40.43	14 32 35.08	17.57
	O. Arg. S. 13814 .	47	43.1	45.0	46.4	56.9	58.0	59.3	0.7	1.9	12.7	14.0	16.3	31 59.48	+ 0.13	40.43	14 32 40.04	17.57
	* — 25° 15′ . .	48	15.7	17.9	19.3	30.0	31.0	32.3	33.7	34.8	45.4	46.8	49.0	36 32.35	0.13	40.43	14 37 12.91	17.58
	56 Hydræ	49	55.4	57.6	58.9	9.5	10.5	11.8	13.1	14.3	25.0	26.4	28.6	39 11.92	+ 0.13	+40.43	14 39 52.48	— 17.65

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 25, 6.7	+ 40.20	+ 0.007	+ 0.100
27, 22.4	40.03	0.000	. .
3.9	40.04	0.000	. .
28, 22.6	40.46	0.000	. .
30, 10.5	+ 40.43	+ 0.001	+ 0.100

9. Faint: through clouds.
26. Unsteady.
27. Unsteady.

May 27-29, n. = — 0.15 s.
30, — 0.05.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 30	8 Libræ	1	55.7	57.2	58.4	59.7	2.0	. .	4.4	6.9	8.2	9.5	10.8	42 33.28	− 0.13	+40.43	14 43 13.58	− 16.72
R.	α Libræ	2	29.0	31.0	32.1	42.0	43.1	44.3	45.7	46.7	56.8	57.9	59.9	42 44.41	+ 0.12	40.43	14 43 24.96	16.68
	O. Arg. S. 14230	3	54.6	56.7	58.0	8.6	9.8	11.0	12.3	13.5	24.3	25.5	27.8	57 11.10	+ 0.13	40.43	14 57 51.66	17.75
	O. Arg. S. 14279	4	. .	. .	. .	. .	. .	. .	26.8	29.3	30.6	31.9	33.4	0 30.40	− 36.05	40.43	15 1 34.78	17.47
	O. Arg. S. 14297	5	. .	. .	. .	52.7	54.0	56.0	12.4	14.9	16.3	17.7	19.0	1 7.88	27.88	40.43	15 1 20.43	17.49
	O. Arg. S. 14366	6	57.0	59.1	0.5	11.0	12.2	13.5	14.8	16.0	26.7	28.0	30.2	5 13.55	+ 0.13	40.43	15 5 54.11	17.96
	* — 25° 25′	7	36.9	38.6	39.9	41.1	43.7	. .	50.3	52.9	54.3	55.7	57.1	5 17.05	− 0.13	40.43	15 5 57.35	17.95
	β Libræ	8	. .	. .	. .	2.0	3.1	4.3	5.5	6.6	16.3	17.5	19.5	9 9.35	4.91	40.43	15 9 44.87	16.27
	Jupiter I	9	19.0	2.1	21.3	22.6	25.0	. .	27.8	30.2	31.5	32.8	34.2	12 56.45	− 0.13	40.43	15 13 36.75	. .
	Jupiter II	10	43.7	46.0	47.2	57.0	58.1	59.5	0.7	1.9	11.9	13.0	15.0	12 59.45	+ 0.12	40.43	15 13 40.00	. .
	O. Arg. S. 14554	11	56.3	58.5	59.7	10.0	11.0	12.4	13.7	14.9	25.4	26.5	28.6	18 12.45	0.13	40.43	15 18 53.01	17.69
	Weisse 444	12	3.9	5.8	7.0	16.8	17.8	19.0	20.2	21.3	31.0	32.3	34.3	24 19.04	+ 0.11	40.43	15 24 59.58	16.41
	α Cor. Borealis	13	. .	. .	. .	15.7	17.0	18.3	19.6	20.8	31.5	33.0	35.3	28 23.90	− 5.48	40.43	15 28 58.85	13.11
Y.	Polaris	14	. .	. .	. .	3.0	42.0	32.0	21.0	1.5	. .	. .	. .	8 31.90	+ 3.96	. .	. . . .	73.75
	Moon II	15	18.6	20.7	22.0	31.7	32.9	34.1	35.4	36.5	46.5	47.7	49.8	17 34.17	+ 0.09	40.61	1 18 14.87	. .
31	Lacaille 5278	16	. .	. .	. .	2.2	3.8	6.2	24.1	27.0	28.5	29.9	31.4	39 19.14	− 30.71	40.78	12 39 29.21	16.01
	Saturn I	17	54.3	55.6	56.9	57.9	0.3	. .	0.5	2.7	4.0	5.2	6.5	45 30.39	− 0.14	40.78	12 46 11.03	. .
	Saturn II	18	16.3	18.2	19.7	29.0	30.0	31.2	32.4	33.5	42.9	44.3	46.5	45 31.27	+ 0.10	40.78	12 46 12.15	. .
	B. A. C. 4345	19	13.6	15.5	17.0	18.6	21.5	. .	38.8	41.9	43.5	45.2	47.2	49 0.28	− 0.22	40.78	12 49 40.84	13.74
	α Canum Venaticorum	20	42.0	44.6	46.0	58.4	59.6	1.2	2.8	4.2	16.5	17.8	20.5	49 1.24	+ 0.09	40.78	12 49 42.11	13.66
	O. Arg. S. 12588	21	28.5	30.7	32.1	43.2	44.4	45.8	47.1	48.4	59.6	0.8	3.1	53 45.79	0.15	40.77	12 54 26.71	16.22
	O. Arg. S. 12620	22	6.4	8.6	9.9	20.6	21.7	23.1	24.3	25.4	36.2	37.5	39.7	56 23.03	0.14	40.77	12 57 3.94	16.06
	O. Arg. S. 12655	23	16.8	19.0	20.5	31.4	32.7	34.0	35.4	36.5	47.7	49.0	51.4	59 34.04	0.14	40.77	13 0 14.95	16.32
	θ Virginis	24	1.5	3.6	4.9	14.4	15.3	16.6	17.7	18.8	28.5	29.7	31.8	2 16.62	+ 0.11	40.77	13 2 57.50	15.23
	Polaris, S. P.	25	. .	. .	. .	9.0	29.0	40.5	51.5	9.0	. .	. .	. .	8 39.80	− 3.96	40.76	. . . .	74.18
	Lacaille 5514	26	35.7	38.0	39.4	50.9	52.0	53.4	54.8	56.0	7.5	8.9	11.3	14 53.45	+ 0.15	40.76	13 15 34.36	16.82
	* — 34° 54′	27	. .	24.4	26.2	38.2	39.3	40.6	42.0	43.4	55.2	56.6	. .	18 40.66	+ 0.17	40.76	13 19 21.59	17.08
	* — 32° 46′	28	. .	. .	. .	14.4	15.6	17.0	18.5	19.7	31.2	32.6	35.0	20 23.00	− 5.74	40.76	13 20 58.02	16.96
	* — 34° 29′	29	5.7	8.0	9.4	20.1	21.3	22.6	23.8	25.1	36.0	37.3	39.5	23 22.62	+ 0.16	40.76	13 24 3.54	17.15
	* — 34° 28′	30	23.5	25.7	27.4	38.9	40.2	41.6	43.1	44.2	56.0	57.5	0.0	37 41.65	+ 0.16	40.75	13 38 22.56	17.47
	O. Arg. S. 13167	31	55.4	57.0	58.3	59.6	2.1	. .	9.8	12.5	13.9	15.4	16.8	41 36.09	− 0.13	40.75	13 42 16.71	16.96
	O. Arg. S. 13169	32	25.4	27.7	29.0	40.0	41.0	42.3	43.5	44.7	55.5	56.9	58.9	41 42.26	+ 0.14	40.75	13 42 23.15	16.96
	* — 38° 23′	33	27.2	29.6	31.1	43.2	44.5	46.1	47.7	49.0	1.3	2.8	5.5	44 46.18	0.17	40.75	13 45 27.10	18.02
	O. Arg. S. 13243	34	12.0	14.3	15.7	26.6	27.8	29.2	30.4	31.7	43.0	44.2	46.6	47 29.23	0.14	40.75	13 48 10.12	17.26
	* — 36° 48′	35	21.3	23.9	25.4	37.3	38.4	39.7	41.3	42.5	54.7	56.3	58.8	51 39.96	0.16	40.74	13 52 20.86	18.01
	* — 37° 6′	36	59.3	1.8	3.4	15.3	16.5	18.2	19.6	20.9	33.1	34.5	37.0	55 18.15	0.16	40.74	13 55 59.05	18.12
	* — 26° 32′	37	15.8	18.1	19.5	30.1	31.2	32.6	33.9	35.1	45.9	47.0	49.4	59 32.60	0.14	40.74	14 0 13.48	17.20
	* — 26° 44′	38	36.7	38.9	40.1	50.6	51.7	53.0	54.3	55.4	6.1	7.3	9.6	1 53.06	+ 0.14	40.74	14 2 33.94	17.23
	* — 26° 4′	39	. .	. .	. .	32.4	33.4	34.7	36.0	37.1	47.8	49.0	51.3	2 40.21	− 5.38	40.74	14 3 15.57	17.18
	50 Hydræ	40	. .	. .	. .		. .	. .	55.4	58.0	59.4	0.9	2.2	4 59.18	− 37.50	40.74	14 5 2.42	17.27
	Lacaille 5883	41	26.5	28.8	30.1	41.7	42.8	44.1	45.6	46.7	58.3	59.6	2.0	9 44.20	+ 0.15	40.73	14 10 25.08	17.90
	O. Arg. S. 13541	42	22.9	25.2	26.6	37.3	38.5	39.8	41.0	42.4	53.2	54.5	56.7	11 39.83	0.14	40.73	14 12 20.70	17.45
	O. Arg. S. 13561	43	15.6	17.8	19.2	30.0	31.0	32.4	33.8	35.0	45.9	47.2	49.5	13 32.49	+ 0.14	40.73	14 14 13.36	17.50
	* — 27° 30′	44	. .	. .	. .	34.3	35.7	37.8	55.0	57.7	59.1	0.6	2.0	15 50.28	− 29.19	40.73	14 16 1.82	17.51
	* — 27° 30′	45	25.6	27.7	29.2	40.0	41.0	42.4	43.7	44.9	55.7	57.1	59.3	16 42.42	+ 0.14	40.73	14 17 23.29	17.53
	* — 27° 19′	46	46.5	48.7	50.0	0.8	1.9	3.2	4.5	5.8	16.6	17.9	20.2	20 3.28	0.14	40.73	14 20 44.15	17.56
	O. Arg. S. 13647	47	58.6	0.9	2.3	12.9	14.0	15.2	16.5	17.8	28.5	30.0	32.2	22 15.35	0.14	40.73	14 22 56.22	17.49
	O. Arg. S. 13702	48	25.7	28.0	29.3	40.0	41.0	42.4	43.6	44.9	55.6	56.9	59.2	23 42.42	+ 0.14	40.73	14 24 23.29	17.50
	ρ Bootis	49	. .	. .	. .	34.0	35.3	37.6	55.1	58.0	59.5	1.0	2.5	25 50.38	− 30.25	40.73	14 26 0.86	13.12
	O. Arg. S. 13757	50	19.5	21.7	23.0	33.5	34.6	36.0	37.4	38.5	49.1	50.4	52.6	28 36.03	+ 0.14	+40.73	14 29 16.90	− 17.48

May 31 . . . . n. = −0.05 s.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
May 31, 15.0	+ 40.71	− 0.029	+ 0.100

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
May 31	O. Arg. S. 13813 .	1	14.4	15.9	17.2	18.5	21.0	. .	27.7	30.2	31.7	33.0	34.5	31 54.41	− 0.12	+40.72	14 32 35.01	− 17.58
Y.	O. Arg. S. 13814 .	2	42.4	44.7	46.0	56.6	57.7	59.0	0.4	1.6	12.2	13.5	15.8	31 59.08	+ 0.14	40.72	14 32 39.94	17.58
	54 Hydræ	3	51.2	52.8	54.0	55.4	58.0	. .	4.2	6.8	8.2	9.6	11.0	37 31.12	− 0.13	40.72	14 38 11.71	17.57
	B. A. C. 4865 . .	4	14.8	17.0	18.4	28.8	30.0	31.3	32.6	33.8	44.5	45.9	47.8	37 31.35	+ 0.13	40.72	14 38 12.20	17.57
	* — 36° 49′ . .	5	41.7	44.2	45.8	57.8	59.0	0.5	1.9	3.1	15.3	16.7	19.2	41 0.47	0.17	40.72	14 41 41.36	19.02
	B. A. C. 4912 . .	6	25.3	27.6	29.0	40.3	41.6	42.9	44.5	45.6	57.0	. .	0.8	45 41.46	1.70	40.72	14 46 23.88	18.56
	* — 26° 15′ . .	7	5.8	7.8	9.5	20.1	21.2	22.5	23.8	25.0	35.7	37.0	39.1	48 22.50	0.14	40.72	14 49 3.36	17.84
	Lacaille 6198 . .	8	45.7	48.1	49.5	0.8	1.9	3.3	4.6	5.8	17.3	18.7	21.4	54 3.37	0.15	40.71	14 54 44.23	18.61
	ψ Bootis . . .	9	42.3	44.6	45.9	56.6	57.8	59.1	0.4	1.6	12.4	13.8	16.0	57 59.14	0.09	40.71	14 58 39.94	13.18
	Lacaille 6258 . .	10	25.0	27.4	29.1	40.3	41.5	43.0	44.5	45.7	57.1	58.6	0.9	2 43.01	0.15	40.71	15 3 23.87	18.87
	Lacaille 6277 . .	11	23.4	25.8	27.1	38.4	39.5	40.8	42.2	43.5	54.7	56.1	58.4	5 40.90	0.15	40.71	15 6 21.76	18.70
	Lacaille 6304 . .	12	39.6	41.8	43.1	54.1	55.3	56.7	52.9	59.2	10.4	11.7	14.1	8 56.72	0.14	40.71	15 9 37.57	18.50
	Jupiter I . . .	13	12.9	15.0	16.3	26.0	27.0	28.2	29.6	30.7	40.8	42.0	44.1	12 28.40	+ 0.12	40.70	15 13 9.22	. .
	Jupiter II . . .	14	54.1	55.5	56.9	58.2	0.5	. .	3.1	5.7	7.0	8.3	9.8	12 31.91	− 0.13	40.70	15 13 12.48	. .
	Lacaille 6368 . .	15	16.8	19.3	21.0	33.3	34.7	36.3	38.0	39.2	51.5	53.2	55.7	16 36.27	+ 0.17	40.70	15 17 17.14	20.04
	Lacaille 6388 . .	16	. .	. .	. .	49.8	51.0	52.5	54.0	55.3	7.7	9.2	11.7	19 58.90	− 6.13	40.70	15 20 35.47	19.88
	Thetis	†17	32.3	33.2	34.4	35.6	36.7	. .	4.6	7.1	8.8	10.0	11.4	24 51.41	− 16.91	40.70	15 25 15.20	. .
	O. Arg. S. 14701 .	18	25.6	27.8	29.1	39.7	40.8	42.2	43.5	44.7	55.4	56.6	59.0	28 42.22	+ 0.14	40.70	15 29 23.06	18.24
	Lacaille 6471 . .	19	10.2	12.8	14.3	26.7	27.9	29.6	30.9	32.3	44.9	46.3	49.0	31 29.54	+ 0.17	40.69	15 32 10.40	20.28
	α Serpentis . . .	20	. .	43.6	44.9	54.5	55.4	56.6	57.8	58.8	8.5	9.8	11.8	36 58.17	− 1.40	40.69	15 37 37.46	14.99
	O. Arg. S. 15950 .	21	29.5	31.8	33.1	43.9	45.2	46.7	48.0	49.2	0.0	1.5	3.7	38 46.60	+ 0.14	40.66	16 39 27.40	19.14
	Weisse 92 . . .	22	. .	. .	. .	. .	. .	. .	50.6	53.0	54.3	55.4	56.8	41 54.02	− 33.67	40.66	16 42 1.01	16.18
	Weisse 854 . . .	23	6.8	8.9	10.2	19.8	20.8	22.0	23.2	24.4	34.0	35.1	37.1	44 22.03	+ 0.11	40.66	16 45 2.80	16.26
	B. A. C. 5684 . .	24	.	. .	. .	45.5	46.8	49.0	6.9	9.8	11.0	12.5	14.3	47 1.98	− 30.22	40.66	16 47 12.42	19.54
	κ Ophiuchi . . .	25	21.2	23.4	24.5	34.0	35.0	36.3	37.6	38.5	48.2	49.5	51.6	50 36.35	+ 0.09	40.66	16 50 17.10	14.56
	B. A. C. 5730 . .	26	20.0	22.2	23.5	33.9	35.0	36.4	37.6	38.8	49.3	50.7	52.8	54 36.38	0.13	40.65	16 55 17.16	18.51
	Weisse 46 . . .	27	38.9	40.9	42.0	51.7	52.7	53.8	55.0	56.0	5.8	6.9	9.0	3 53.88	0.10	40.65	17 4 34.63	16.15
	α Herculis . . .	28	33.8	35.8	37.2	47.0	48.0	49.2	50.5	51.6	1.5	2.6	4.9	7 49.28	0.09	40.65	17 8 30.02	14.13
R.	Venus II . . .	29	12.4	14.5	15.9	25.8	26.9	28.1	29.5	30.5	40.8	42.0	44.3	45 28.25	0.12	40.73	3 46 9.10	0.36
June 1	Sun I	30	14.6	16.6	18.0	28.0	29.4	30.8	31.9	33.0	43.5	44.8	47.0	37 30.69	0.11	40.74	4 38 11.54	. .
	Sun II	31	31.3	33.4	34.7	45.0	46.2	47.5	48.9	50.0	0.3	1.5	3.6	39 47.49	0.11	40.74	4 40 28.34	. .
	α Orionis	†32	53.4	55.5	56.6	. .	. .	. .	. .	. .	20.5	21.7	23.8	47 8.58	0.07	40.76	. . . .	13.81
	μ Bootis	33	23.9	26.8	28.1	40.0	41.3	43.0	44.4	45.7	58.0	59.3	2.0	18 42.95	0.13	40.94	. . . .	11.92
	α Coronæ Borealis .	34	0.9	3.2	4.6	15.4	16.4	17.6	18.9	20.0	31.2	32.4	34.7	28 17.75	+ 0.12	40.94	. . . .	13.11
	α Arietis	35	. .	. .	. .	48.3	49.3	50.7	52.0	53.0	3.6	4.9	7.1	58 56.11	− 5.26	41.21	. . . .	14.78
Y. 2	α Arietis	36	34.5	36.6	38.0	48.3	49.4	50.7	51.9	53.0	3.8	4.9	7.0	58 50.74	+ 0.12	41.22	. . . .	14.80
R. 3	α Virginis	37	8.3	10.3	11.6	21.2	22.2	23.4	24.6	25.7	35.3	36.6	38.7	17 23.45	+ 0.11	41.31	13 18 4.87	15.56
	Polaris, S. P. . .	38	58.0	59.0	12.0	23.0	50.0	. .	. .	. .	. .	. .	. .	31 4.40	−22 26.59	41.31	. . . .	. .
	Lacaille 5773 . .	39	24.4	26.6	28.0	38.4	39.5	40.9	42.2	43.3	54.0	55.4	57.5	49 40.93	+ 0.13	41.31	13 50 22.37	16.91
	Lacaille 5812 . .	40	52.3	54.9	56.3	8.2	9.4	10.8	12.3	13.7	25.8	27.8	29.7	57 10.97	0.15	41.32	13 57 52.44	18.14
	* — 26° 33′ . .	41	22.8	24.9	26.4	. .	. .	. .	. .	. .	52.7	54.1	56.3	0 39.53	0.09	41.32	14 1 20.94	17.18
	* — 26° 33′ . .	42	. .	. .	. .	40.8	41.9	43.3	44.6	45.8	. .	. .	. .	0 43.28	0.08	41.32	14 1 24.68	17.19
	50 Hydræ	43	4.2	6.5	7.8	18.5	19.6	20.9	22.3	23.5	34.2	35.5	37.9	4 20.99	0.13	41.32	14 5 2.44	17.25
	α Bootis	44	33.0	35.0	36.4	46.6	47.6	48.8	50.0	51.2	1.5	2.7	4.9	8 48.88	0.11	41.32	14 9 30.31	13.70
	* — 26° 15′ . .	45	5.5	7.5	8.8	19.5	20.7	22.0	23.1	24.5	35.4	36.5	38.7	48 22.02	0.13	41.32	14 49 3.47	17.84
	* — 21° 53′ . .	46	18.4	20.5	21.8	32.2	33.2	34.4	35.7	36.8	47.4	48.5	50.8	57 34.52	+ 0.12	41.32	14 58 15.96	17.41
	O. Arg. S. 14279 .	47	. .	. .	. .	51.0	52.0	53.3	54.6	55.7	6.1	7.3	9.4	59 58.68	− 5.21	41.32	15 0 34.79	17.48
	O. Arg. S. 14349 .	48	48.8	51.0	52.3	2.9	3.9	5.3	6.5	7.7	18.4	19.7	21.9	4 5.31	+ 0.13	41.32	15 4 46.76	17.91
	β Libræ	49	48.2	50.2	51.5	1.1	2.2	3.4	4.5	5.5	15.2	16.6	18.6	9 3.36	+ 0.11	+41.33	15 9 44.80	− 16.28

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 1, 12.2	+ 40.88	+ 0.018	+ 0.110
3, 12.0	+ 41.30	0.008	. .

17. Faint.
32. Through clouds.

June 1–3, . . . n. = −0.01 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. June 3	Jupiter I	1	52.0	54.0	55.4	. .	. .	. .	. .	. .	19.9	21.1	23.3	11 7.62	+ 0.08	+41.33	15 11 49.03	. .
R.	Jupiter II	2	. .	. .	. .	8.3	9.5	10.7	11.9	13.0	. .	. .	. .	11 10.68	+ 0.17	41.33	15 11 52.18	. .
	O. Arg. S. 14554	3	. .	. .	. .	9.3	10.2	11.6	12.8	13.8	24.3	25.7	27.7	18 16.92	— 5.23	41.33	15 18 53.02	— 17.62
	α Cor. Borealis	4	0.6	2.7	4.3	14.9	16.0	17.4	18.7	20.0	30.7	32.1	34.3	28 17.43	+ 0.12	41.33	15 28 58.88	13.11
Y. 4	Sun I	†5	32.9	35.1	36.4	46.7	47.8	49.1	50.3	51.6	1.9	3.2	3.5	49 49.14	. .	. .	. . . . .	. .
	Sun II	6	50.0	52.0	53.4	3.7	4.8	6.2	7.5	8.6	18.9	20.2	22.3	52 6.15	. .	. .	. . . . .	. .
5	α Arietis	7	34.2	36.2	37.6	47.9	49.0	50.3	51.5	52.8	3.0	4.3	6.6	58 50.31	0.12	41.73	. . . .	14.88
R.	Mercury II	8	10.5	12.4	13.8	23.7	24.6	25.9	27.0	28.2	38.3	39.5	41.7	46 25.96	+ 0.12	41.77	3 47 7.85	0.36
	Venus I	†9	8.6	10.2	11.4	12.6	15.1	. .	19.5	22.0	23.4	24.7	26.3	10 47.38	— 0.13	41.77	4 11 29.02	. .
	Venus II	†10	31.9	34.0	35.4	45.5	46.6	48.0	49.2	50.2	0.6	2.0	4.2	10 47.96	+ 0.12	41.77	4 11 29.85	. .
6	Sun I	11	47.0	49.2	50.5	0.8	1.8	3.2	4.6	5.8	16.4	17.5	19.7	58 3.32	0.12	41.79	4 58 45.23	. .
	Sun II	12	4.5	6.4	7.8	18.0	19.3	20.7	22.0	23.0	33.4	34.9	36.9	0 20.64	0.12	41.79	5 1 2.55	. .
	α Canis Majoris	†13	12.1	14.3	15.5	25.4	26.5	27.7	28.9	30.0	39.8	41.1	43.5	38 27.71	0.13	41.83	6 39 9.67	11.09
	α² Geminorum	14	56.7	59.0	0.7	11.7	12.8	14.3	15.7	17.0	28.4	29.7	32.1	25 14.37	0.12	41.84	7 25 56.33	16.55
	α Canis Minoris	15	14.9	16.9	18.3	27.6	28.7	29.9	31.0	32.2	42.0	43.1	45.0	31 29.96	+ 0.12	41.84	7 32 11.92	13.59
Y.	Venus I	16	15.4	16.9	18.1	19.5	21.9	. .	26.3	28.9	30.2	31.6	33.1	15 54.19	— 0.14	42.34	4 16 36.39	. .
	Venus II	17	38.8	40.9	42.3	52.3	53.4	54.8	55.9	57.2	7.5	8.7	10.9	15 54.79	+ 0.11	42.34	4 16 37.24	. .
	α Tauri	18	48.4	49.7	51.0	52.2	54.7	. .	57.0	59.4	0.7	2.2	3.5	27 25.77	— 0.01	42.34	4 28 8.10	14.73
		19	10.1	12.1	13.4	23.4	24.5	25.6	26.9	27.9	38.0	39.3	41.2					
7	Sun I	20	54.2	56.3	57.5	7.7	9.0	10.3	11.7	12.8	23.2	24.5	26.7	2 10.35	+ 0.11	42.36	5 2 52.82	. .
	Sun II	21	11.3	13.7	15.0	25.3	26.4	27.7	29.0	30.2	41.0	42.0	44.2	4 27.80	0.11	42.36	5 5 10.27	. .
	α Canis Majoris	†22	11.6	13.7	15.0	25.2	26.1	27.2	28.3	29.3	39.5	40.7	42.7	38 27.21	0.14	42.40	6 39 9.75	11.09
	α Canis Minoris	23	14.4	16.5	17.7	27.2	28.2	29.3	30.5	31.7	41.5	42.6	44.5	31 29.46	0.12	42.42	7 32 12.00	13.59
	Moon I	†24	52.0	54.1	55.4	5.3	6.5	7.8	9.0	10.2	20.4	21.7	23.8	46 7.84	0.11	42.42	7 46 50.37	. .
	Polaris, S. P.	25	0.0	0.0	15.5	27.0	49.0	. .	19.0	45.0	54.0	3.0	6.5	8 38.19	+ 1.74	42.55	. . . . .	80.15
		26	45.0	24.0	33.5	12.0	32.5	44.5	57.0	14.5	47.0	57.0	36.0					
	η Bootis	†27	54.6	56.0	57.3	58.6	0.9	. .	4.6	7.2	8.5	9.8	11.1	47 32.70	— 0.01	42.57	13 48 15.26	14.14
		†28	16.9	19.0	20.2	30.3	31.2	32.5	33.8	34.8	45.0	46.0	48.5					
	Jupiter I	29	10.2	12.0	13.4	23.4	24.5	25.7	26.8	27.9	38.0	39.3	41.3	9 25.68	+ 0.14	42.60	15 10 8.42	. .
	Jupiter II	30	51.0	52.3	53.6	54.9	57.4	. .	0.3	2.7	3.9	5.3	6.5	9 28.79	— 0.11	42.60	15 10 11.28	. .
	μ Bootis	31	22.4	25.0	26.4	38.3	39.8	41.2	42.7	44.2	56.4	57.9	0.3	18 41.33	+ 0.11	42.60	15 19 24.04	11.90
	O. Arg. S. 14687	32	50.9	53.1	54.4	5.2	6.4	7.8	9.0	10.3	21.2	22.4	24.7	28 7.77	0.16	42.61	15 28 50.54	18.50
	Lacaille 6491	33	13.4	15.7	17.3	28.6	29.7	31.1	32.5	33.7	45.0	46.3	48.7	33 31.09	+ 0.17	42.61	15 34 13.87	19.11
	O. Arg. S. 14871	†34	. .	. .	. .	. .	. .	. .	8.0	10.6	11.9	13.5	14.9	39 11.74	— 37.11	42.61	15 39 17.24	18.31
	O. Arg. S. 14925	35	28.0	30.2	31.5	42.2	43.2	44.6	45.9	47.0	57.9	59.1	1.3	41 44.63	+ 0.16	42.61	15 42 27.40	18.40
	δ Scorpii	†36	. .	. .	. .	36.5	37.6	38.9	40.0	41.1	. .	. .	. .	51 38.82	0.20	42.62	15 52 21.64	18.02
	β Scorpii	37	37.3	39.3	40.6	50.7	51.7	53.0	54.2	55.3	5.6	6.8	9.0	56 53.05	0.15	42.62	15 57 35.82	17.72
8	Venus I	38	55.4	57.3	58.5	. .	. .	. .	. .	. .	24.1	25.3	27.6	26 11.37	+ 0.07	43.05	4 26 54.49	. .
	Venus II	39	33.5	34.8	36.0	37.3	39.9	. .	44.5	47.1	48.5	49.9	51.3	26 12.28	— 0.14	43.05	4 26 55.19	. .
	α Tauri	40	. .	. .	. .	. .	. .	. .	56.5	59.0	0.3	1.6	2.9	27 0.06	— 34.93	43.05	4 27 8.18	14.76
9	Sun I	41	9.8	11.9	13.2	23.5	24.7	26.0	27.2	28.3	38.9	40.2	42.1	10 25.98	+ 0.11	43.03	5 11 9.12	. .
	Sun II	42	27.2	29.4	30.7	41.1	42.2	43.4	44.7	45.8	56.5	57.8	59.8	12 43.51	0.11	43.03	5 13 26.65	. .
	α² Geminorum	43	55.6	57.8	59.4	10.4	11.7	13.1	14.5	15.8	27.2	28.7	31.0	25 13.20	0.11	42.98	7 25 56.29	16.54
	α Canis Minoris	44	13.9	15.9	17.2	26.7	27.7	28.9	30.0	31.1	40.8	41.9	44.0	31 28.92	0.12	42.97	7 32 12.01	13.58
	α Hydræ	45	57.4	59.5	0.8	10.3	11.3	12.5	13.7	14.8	24.4	25.7	27.8	20 12.56	0.13	42.93	9 20 55.62	13.20
	Moon I	46	48.0	50.0	51.4	1.2	2.2	3.4	4.7	5.7	15.5	16.8	18.9	24 3.44	0.11	42.93	9 24 46.48	. .
	α Ceti	47	13.0	15.0	16.4	25.9	26.9	28.1	29.2	30.3	40.0	41.2	43.2	54 28.11	+ 0.13	+43.23	. . . . .	— 13.59

5. Through thin clouds; steady.
9–10. Usteady.
13. Unsteady.
22. Very unsteady.
24. Faint.
27–28. Faint; through clouds.
34. Faint.
36. Through clouds.

June 4–6, n. = — 0.03 s.
7, 0.05.
8–9, 0.05.
9, 2h. to 7h. 0.00.

June 7, 16h. 10m. Image east 0.12 r. Clamp east
Image west 0.29. Clamp west.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 6, 5.9	+ 41.81	+ 0.021	+ 0.120
7, 11.4	42.51	+ 0.024	. .
9, 7.2	+ 42.98	— 0.025	+ 0.130

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 9	Mercury II . . .	†1	49.3	51.0	52.5	2.2	3.2	4.7	6.0	7.0	17.1	18.4	20.4	51 4.71	+ 0.14	+43.18	3 51 48.03	— 0.33
R.	α Tauri	†2	9.1	11.2	12.6	22.4	23.5	24.7	25.9	27.1	37.0	38.2	40.4	27 24.74	0.14	43.19	. . . .	14.78
	Venus I	†3	5.2	7.2	8.6	18.8	20.0	21.2	22.5	23.5	33.8	35.3	37.4	31 21.23	+ 0.14	43.19	4 32 4.56	. .
	Venus II . . .	†4	43.3	44.7	46.1	47.5	49.8	. .	55.0	57.0	58.5	59.1	1.6	31 22.26	— 0.11	43.19	4 32 5.34	. .
10	Sun I	†5	17.9	19.8	21.2	31.8	32.8	34.2	35.5	36.6	47.1	48.5	50.3	14 34.15	+ 0.14	43.20	5 15 17.49	. .
	Sun II	†6	35.6	37.7	39.0	49.5	50.6	51.9	53.3	54.3	4.8	6.1	8.2	16 51.91	0.14	43.20	5 17 35.25	. .
	α Canis Majoris . .	†7	10.5	13.0	14.3	24.1	25.2	26.3	27.6	28.8	38.7	40.0	42.0	38 26.41	+ 0.14	43.21	. . . .	11.09
Y.	α Hydræ	8	9.9	10.9	12.0	13.1	14.3	. .	42.7	45.2	46.3	47.5	48.9	20 29.08	— 16.83	43.30	9 20 55.55	13.19
	ε Leonis	9	9.3	11.5	12.9	23.3	24.4	25.7	27.1	28.2	38.8	40.0	42.3	37 25.77	+ 0.10	43.30	9 37 9.17	15.22
	α Leonis	10	10.5	12.6	13.9	23.5	24.6	25.8	27.0	28.1	38.0	39.1	41.3	0 25.85	+ 0.11	43.31	10 1 9.27	14.44
	Moon I	†11	. .	. .	. .	36.3	37.4	38.5	39.7	40.7	50.6	51.9	53.9	10 43.62	— 4.96	43.31	10 11 21.97	. .
	γ Leonis	12	. .	. .	. .	. .	. .	. .	18.9	21.4	22.6	24.0	25.4	12 22.46	— 35.83	43.31	10 12 29.94	14.98
	θ Virginis	13	58.8	0.9	2.1	11.6	12.6	13.8	15.0	16.0	25.7	26.8	29.0	2 13.85	+ 0.14	43.34	13 2 57.33	15.15
	Polaris, S. P. . .	†14	14.0	32.0	45.0	58.0	13.0	. .	21.0	44.0	53.0	3.0	4.0	.57 22.70	11 18.63	43.34	. . . .	. .
	α Virginis	15	6.2	8.2	9.4	. .	20.1	21.3	22.6	. .	33.3	34.4	36.5	17 21.33	0.14	43.34	13 18 4.81	15.51
R	B. A. C. 5281 . .	16	48.2	50.2	51.5	1.8	2.8	4.2	5.4	6.6	16.8	18.0	20.1	49 4.15	0.17	43.31	15 49 47.63	17.82
	δ Scorpii	17	22.0	24.1	25.5	35.8	36.8	38.1	39.3	40.4	50.8	52.3	54.2	51 38.12	0.18	43.32	15 52 21.62	18.03
	δ Ophiuchi . . .	18	18.4	20.2	21.4	30.9	32.0	33.2	34.4	35.4	45.1	46.2	48.3	6 33.23	0.14	43.32	16 7 16.70	16.00
Y. 11	Sun I	†19	26.2	28.3	29.6	40.0	41.0	42.2	43.4	44.7	55.5	56.5	58.7	18 42.37	0.15	43.46	5 19 25.98	. .
	Sun II	†20	43.9	45.8	. .	57.7	58.7	0.1	1.4	2.5	. .	14.4	16.4	20 0.10	0.16	43.46	5 20 43.72	. .
	α Canis Majoris . .	†21	10.5	12.4	13.8	23.7	24.8	26.1	27.4	28.6	38.5	39.5	41.7	38 26.09	0.13	43.48	. . . .	11.09
12	δ Leonis	†22	31.9	33.4	34.7	36.0	38.5	. .	. .	. .	. .	. .	. .	5 34.90	+ 35.75	43.58	. . . .	14.71
	α Ceti	23	25.6	26.5	27.7	28.8	29.9	. .	57.9	0.3	1.6	2.8	4.0	54 44.51	— 16.70	43.71	. . . .	13.66
R.	Mercury II . . .	†24	. .	. .	. .	. .	. .	. .	4.9	7.4	8.5	9.7	11.2	58 8.34	35.01	43.57	3 58 16.90	— 0.31
13	Sun I	†25	. .	. .	. .	57.8	58.7	0.1	1.4	2.5	13.1	14.3	16.4	27 5.54	5.25	43.60	5 27 43.89	+ 68.85
	α Canis Majoris . .	†26	. .	. .	. .	23.5	24.5	25.9	27.2	28.4	38.2	39.5	41.7	38 31.11	— 5.01	43.62	6 39 9.72	— 11.10
	β Geminorum . . .	27	59.8	2.0	3.6	14.2	15.3	16.7	18.1	19.3	30.0	31.4	33.9	36 16.75	+ 0.17	43.63	7 37 0.55	15.90
	β Leonis	†28	10.0	12.0	13.4	23.2	24.2	25.5	26.7	27.8	37.8	39.0	41.2	41 25.53	0.15	43.71	11 42 9.39	14.34
	Moon I	29	36.5	38.5	39.8	49.7	50.7	51.9	53.1	54.2	4.2	5.3	7.4	29 51.94	0.14	43.72	12 30 35.80	. .
	γ^1 Virginis	30	49.9	51.8	53.1	2.5	3.6	4.8	6.0	7.0	16.5	17.7	19.9	34 4.80	+ 0.14	43.72	12 34 48.66	14.81
	γ^2 Virginis	31	29.0	30.3	31.5	32.8	35.0	. .	35.1	37.5	38.7	40.0	41.3	34 5.12	— 0.10	43.72	12 34 48.74	14.81
	Polaris, S. P. . .	32	. .	. .	. .	. .	. .	. .	26.0	50.0	59.5	7.5	13.0	46 7.20	+22 36.28	43.73	. . . .	84.77
	ψ Bootis	33	39.1	41.1	42.7	53.3	54.6	55.8	57.3	58.5	9.6	10.7	13.2	57 56.03	0.16	43.77	14 58 39.96	13.12
	O. Arg. S. 14311 .	34	19.8	21.9	23.3	33.7	35.1	36.4	37.8	38.9	49.5	50.8	52.9	1 36.37	+ 0.15	43.77	15 2 20.29	17.95
	O. Arg. S. 14366 .	35	30.2	31.7	33.2	34.6	37.4	.	43.8	46.3	47.6	49.1	50.6	5 10.45	— 0.10	43.77	15 5 54.12	17.97
	* —25° 25′ . .	36	56.9	58.9	0.4	. .	. .	. .	. .	. .	26.5	27.7	29.8	5 13.37	+ 0.11	43.77	15 5 57.25	17.95
	Jupiter I . . .	†37	. .	. .	. .	5.6	6.6	7.8	9.0	10.2	. .	. .	. .	7 7.84	+ 0.19	43.77	15 7 51.80	. .
	Jupiter II . . .	†38	. .	. .	. .	23.5	24.7	26.6	42.5	45.0	46.4	47.6	48.9	7 38.15	— 26.98	43.77	15 7 54.94	. .
	O. Arg. S. 14533 .	39	31.9	34.2	35.5	46.3	47.5	48.9	50.2	51.4	2.1	3.4	5.7	16 48.83	+ 0.15	43.78	15 17 32.76	18.35
	μ Bootis	40	. .	. .	. .	54.9	56.3	59.0	18.3	21.5	23.2	24.5	26.2	19 12.99	— 32.77	43.78	15 19 24.00	11.86
14	γ^1 Virginis	41	49.7	51.7	53.0	2.3	3.3	4.6	5.7	6.8	16.4	17.7	19.7	34 4.63	+ 0.14	43.77	12 34 48.54	14.80
	γ^2 Virginis	42	28.8	30.2	31.4	32.6	35.0	. .	35.0	37.3	38.6	39.8	41.2	34 4.99	— 0.10	43.77	12 34 48.66	14.80
	Polaris, S. P. . .	43	. .	. .	. .	22.0	41.0	54.0	6.0	22.5	. .	. .	. .	8 53.10	9.21	43.77	. . . .	. .
	Moon I	†44	21.5	22.9	24.0	25.3	27.9	. .	. .	. .	. .	. .	. .	18 24.32	34.77	43.78	13 19 42.87	. .
	Jupiter I . . .	45	9.5	10.9	12.0	13.3	15.8	. .	18.3	20.8	22.2	23.6	24.8	6 47.12	— 0.12	43.75	15 7 30.75	. .
	Jupiter II . . .	46	34.5	36.5	37.8	47.9	48.9	50.2	51.4	52.5	2.5	3.8	5.9	6 50.17	+ 0.13	43.75	15 7 34.05	. .
	O. Arg. S. 14466 .	47	40.9	42.8	44.3	54.5	55.9	57.2	58.5	59.7	10.3	11.6	13.8	11 57.25	0.14	43.74	15 12 41.13	18.04
	O. Arg. S. 14533 .	48	31.9	34.0	35.8	46.2	47.5	48.7	50.0	51.2	2.2	3.7	5.8	16 48.82	0.14	43.74	15 17 32.70	18.36
	O. Arg. S. 14548 .	49	40.5	42.6	44.0	54.8	56.0	57.3	58.7	59.8	10.5	11.9	14.3	17 57.31	+ 0.14	+43.74	15 18 41.19	— 18.35

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	e.
h.	s.	s.	s.
June 10, 11.1	+ 43.32	+ 0.011	+ 0.130
11, 6.7	43.48	0.015	. .
12, 11.3	43.70	+ 0.018	0.140
14, 15.6	+ 43.74	— 0.010	+ 0.140

1. Very faint.
2. Very unsteady.
3–4. Exceedingly unsteady.
5–6. Badly defined and unsteady.
7. Very unsteady.
11. Through clouds.
14. Set E observed by Rogers.
19–20–21. Unsteady.

		s.
June	10, 2h. to 7h. n. =	— 0.00.
	9h. to 17h.	— 0.09.
	11–13	+ 0.01.
	14	+ 0.04.

22. Through clouds.
24. Very faint.
25. Through clouds.
26. Very unsteady.
28. Through clouds.
37–38. Through haze.
44. Serrated, vibrating, through dense clouds.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 14 R.	Lacaille 6409 . .	1	23.0	25.5	26.9	38.3	39.5	40.8	42.2	43.5	54.9	56.4	58.6	22 40.87	+ 0.14	+43.74	15 23 24.75	− 19.07
	α Coronæ Borealis .	2	58.0	0.2	1.8	12.2	13.3	14.7	16.0	17.1	28.2	29.5	31.7	28 14.79	0.18	43.74	. . . .	13.08
	Lacaille 6471 . .	3	7.4	9.9	11.6	23.8	25.0	26.5	28.3	29.7	42.0	43.6	46.3	31 26.75	0.15	43.74	15 32 10.64	20.32
	α Serpentis . . .	4	38.4	40.5	41.7	51.4	52.4	. .	54.8	55.8	5.6	6.7	8.7	36 53.60	0.14	43.74	. . . .	15.01
	α Ceti	5	12.4	14.2	15.5	25.0	26.2	27.3	28.5	29.6	39.2	40.3	42.5	54 27.34	0.14	44.08	2 55 11.56	13.70
	Mercury II . . .	6	2.1	4.3	5.5	15.5	16.6	17.9	19.2	20.2	30.3	31.7	33.7	3 17.91	0.17	44.09	4 4 2.17	0.29
	α Tauri	†7	8.3	10.6	11.7	21.8	23.0	24.1	25.3	26.4	36.4	37.6	39.6	27 24.07	+ 0.17	44.10	4 28 8.34	14.86
	Venus I . . .	†8	47.6	48.7	50.2	51.5	54.2	. .	59.2	1.7	3.0	4.6	5.7	57 26.64	− 0.07	44.10	4 58 10.67	. .
	Venus II . . .	†9	10.8	13.3	14.7	24.9	26.0	27.2	28.4	29.5	39.9	41.5	43.8	57 27.27	+ 0.18	44.10	4 58 11.55	. .
15	Sun I	†10	. .	. .	. .	15.6	16.7	17.9	19.2	20.5	31.0	32.2	34.6	35 23.46	− 5.23	44.11	5 36 2.34	. .
	Sun II	†11	19.6	21.8	23.2	33.5	34.5	35.8	37.3	38.4	48.9	50.2	52.5	37 35.98	+ 0.18	44.11	5 38 20.27	. .
	α² Geminorum . .	†12	54.4	56.6	58.1	9.1	10.4	11.7	13.1	14.6	26.0	27.4	29.6	25 11.91	0.21	44.14	7 25 56.26	16.54
	α Canis Minoris .	†13	12.6	14.5	15.7	25.4	26.4	27.6	28.8	29.9	39.5	40.7	42.7	31 27.62	0.15	44.14	7 31 11.91	13.58
	β Geminorum . .	†14	59.1	1.5	3.0	13.8	14.9	16.3	17.6	. .	29.5	31.1	33.3	36 16.01	0.45	44.14	7 37 0.60	15.90
	γ¹ Virginis	15	49.4	51.3	52.6	2.0	3.0	4.2	5.3	6.4	16.1	17.3	19.3	34 4.26	+ 0.14	44.20	12 34 48.60	14.79
	γ² Virginis	16	28.5	29.8	31.0	32.2	34.5	. .	34.5	36.9	38.2	39.5	40.8	34 4.59	− 0.10	44.20	12 34 48.69	14.79
	Polaris, S. P. . .	†17	. .	. .	. .	.	. .	. .	30.0	53.0	1.5	12.0	17.5	46 10.80	+22 33.80	44.21	. . . .	86.59
	Moon I	†18	. .	. .	. .	3.4	4.5	6.5	22.7	25.1	26.4	27.7	29.3	11 18.20	− 27.51	44.22	14 11 34.91	. .
	ρ Bootis	19	59.0	11.2	2.6	13.7	15.0	16.3	17.7	18.9	30.2	31.6	33.9	25 16.37	+ 0.20	44.23	14 26 0.80	13.00
	8 Libræ	20	51.9	53.4	54.6	55.9	58.2	. .	0.3	2.8	4.3	5.6	7.0	42 39.40	− 0.12	44 23	14 43 13.51	16.69
	α Libræ	21	25.1	27.0	28.5	38.2	39.3	40.4	41.6	42.8	52.9	54.1	56.3	42 40.56	+ 0.13	44.23	14 43 24.92	16.65
	Jupiter I . . .	22	10.9	12.8	14.1	23.8	24.9	26.1	27.5	28.6	38.5	39.9	42.0	6 26.28	+ 0.13	44.24	15 7 10.65	. .
	Jupiter II . . .	23	52.0	53.4	54.7	56.0	58.3	. .	1.0	3.4	4.8	6.1	7.5	6 29.72	− 0.12	44.24	15 7 13.84	. .
	μ Bootis	24	20.8	23.1	24.6	36.8	38.0	39.4	41.0	42.4	54.4	56.0	58.6	18 39.56	+ 0.23	44.24	15 19 24.03	11.85
	Weisse (2) 414 . .	25	55.3	57.2	58.7	0.2	3.2	. .	19.1	22.1	23.8	25.4	27.0	18 41.20	− 0.07	44.24	15 19 25.37	11.89
	Mercury II . . .	26	19.0	20.8	22.3	32.2	33.3	34.6	35.7	36.8	47.0	48.3	50.5	6 34.59	+ 0.16	44.33	4 7 19.08	0.29
	α Tauri	27	8.3	10.3	11.6	21.4	22.6	23.7	24.9	26.0	35.9	37.5	39.5	27 23.79	+ 0.16	44.34	4 27 8.29	14.88
	Venus I . . .	28	2.9	4.5	5.8	6.9	9.5	. .	14.7	17.2	18.7	20.0	21.5	2 42.17	− 0.09	44.35	5 3 26.43	. .
	Venus II . . .	29	26.6	28.6	29.9	40.2	41.4	42.8	44.0	45.2	55.4	56.8	59.1	2 42.73	+ 0.17	44.35	5 3 27.25	. .
16	Sun I	30	10.5	12.9	14.1	24.6	25.7	27.1	28.3	29.4	40.0	41.4	43.5	39 27.05	0.18	44.35	5 40 11.58	. .
	Sun II	31	28.7	30.7	32.1	42.5	43.5	44.8	46.1	47.3	58.0	59.1	1.4	41 44.93	0.18	44.35	5 42 29.46	. .
	α Canis Majoris . .	†32	9.5	11.7	13.0	23.0	24.0	25.2	26.5	27.5	37.7	38.8	41.1	38 25.27	+ 0.13	44.36	6 39 9.76	11.11
	Polaris, S. P. . .	33	. .	. .	. .	24.0	44.0	54.0	7.5	25.0	. .	. .	. .	8 54.90	− 9.63	44.64	. . . .	. .
	α Virginis	34	4.9	6.8	8.0	17.7	18.8	20.0	21.2	22.2	32.0	33.2	35.3	17 20.01	+ 0.13	44.64	13 18 4.78	15.47
	Moon I	35	45.5	47.7	48.9	59.0	0.0	1.5	2.8	3.9	14.5	15.7	17.8	6 1.57	0.19	44.63	15 6 46.39	. .
	β Libræ	36	45.0	47.0	48.3	57.7	58.9	0.1	1.3	2.4	12.1	13.3	15.3	9 0.13	0.16	44.63	15 9 44.92	16.27
	O. Arg. S. 14531 .	37	6.8	8.8	10.3	20.5	21.6	22.8	24.0	25.1	35.5	36.8	39.1	16 22.85	0.21	44.62	15 17 7.68	17.64
	ζ¹ Libræ	38	38.7	40.6	42.0	52.0	53.0	54.3	55.5	56.6	6.7	7.9	10.0	19 54.32	0.19	44.62	15 20 39.13	17.11
	* — 23° 11′ . .	39	10.5	12.8	14.1	24.3	25.5	27.0	28.1	29.3	39.7	40.9	43.2	22 26.85	+ 0.21	44.62	15 23 11.68	17.89
	Lacaille 6415 . .	40	. .	. .	. .	39.1	40.5	43.2	2.8	5.9	7.4	9.2	10.8	24 57.36	− 33.46	44.62	15 25 8.52	20.22
	γ Libræ	41	58.7	0.8	2.0	11.8	12.9	14.0	15.4	16.4	26.2	27.4	29.7	27 14.12	+ 0.18	44.62	15 27 58.92	16.97
	ε Serpentis . . .	42	5.7	7.8	9.1	18.6	19.6	20.9	22.0	23.0	32.6	33.7	35.8	43 20.80	+ 0.13	44.62	15 44 5.55	15.18
	B. A. C. 5281 . .	43	. .	. .	. .	0.2	1.4	2.7	4.0	5.1	15.5	16.8	19.0	49 8.09	− 5.10	44.62	15 49 47.61	17.83
	O. Arg. S. 15072 .	44	37.1	39.2	40.4	50.4	51.6	53.0	54.1	55.3	5.7	6.9	9.2	49 52.99	+ 0.20	44.62	15 50 37.81	17.83
	B. A. C. 5308 . .	45	16.4	18.5	20.1	31.1	32.3	33.6	34.8	36.2	47.1	48.6	50.9	53 33.60	0.24	44.62	15 54 18.46	18.93
	O. Arg. S. 15194 .	46	30.1	32.4	33.7	44.0	45.2	46.5	47.8	48.9	59.4	0.6	2.8	56 46.49	0.22	44.62	15 57 31.33	18.30
	B. A. C. 5364 . .	47	0.2	2.3	3.7	14.3	15.4	16.9	18.2	19.3	30.1	31.3	33.8	1 16.86	0.23	44.62	16 2 1.71	18.69
	B. A. C. 5394 . .	48	37.8	40.0	41.4	. .	. .	. .	. .	. .	7.2	8.3	10.5	4 54.20	+ 0.18	44.62	16 5 39.00	18.39
	δ Ophiuchi . . .	49	. .	. .	. .	47.0	. .	. .	2.2	4.5	5.8	7.2	8.5	7 2.53	− 30.44	44.62	16 7 16.71	16.02
	O. Arg. S. 15566 .	50	47.2	49.3	50.7	0.0	2.2	3.5	4.9	5.9	16.3	17.7	19.8	14 3.50	+ 0.15	+44.62	16 14 48.27	− 18.29

7. Faint and unsteady.
8–9. Unsteady.
10 Very badly defined.
11. Better.
12–13–14. Unsteady.
17. Steady.
18. Through dense clouds.
32. Unsteady.

		s.
June 15,	. . . n. =	+ 0.07.
15–16,	4h. to 14h.	+ 0.05.
16,	15h. to 18h.	— 0.14.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	e.
h.	s.	s.	s.
June 15, 9.3	+ 44.16	+ 0.013	0.140
5.6	44.35	+ 0.009	. .
16, 15.7	+ 44.62	— 0.010	+ 0.150

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. June 16 R.	B. A. C. 5476 . .	1	17.9	20.2	21.6	32.6	33.6	35.1	36.4	37.6	. .	. .	. .	16 29.38	+ 5.97	—44.61	16 17 19.96	— 19.26
	O. Arg. S. 15643 .	2	. .	. .	. .	16.1	17.4	18.7	20.1	21.3	32.2	33.9	36.0	18 24.46	— 5.43	44.61	16 19 3.64	19.18
	O. Arg. S. 15659 .	3	. .	. .	. .	18.6	19.8	22.0	38.9	41.5	42.8	44.1	45.6	20 34.16	— 28.31	44.61	16 20 50.46	18.52
	O. Arg. S. 15694 .	4	11.2	13.4	15.0	. .	. .	. .	. .	. .	42.0	43.2	45.8	22 28.43	+ 0.19	44.61	16 23 13.23	19.30
	O. Arg. S. 15783 .	5	13.8	15.8	17.2	27.3	28.5	. .	31.0	32.2	42.8	44.0	46.2	29 29.88	0.20	44.61	16 30 14.69	18.26
	O. Arg. S. 15804 .	6	42.0	44.2	45.7	56.6	57.7	59.0	0.4	1.5	12.7	14.0	16.2	30 59.09	0.24	44.61	16 31 43.94	19.03
	ζ Herculis . . .	7	10.2	12.6	13.8	25.3	26.4	28.0	29.4	30.4	41.9	43.3	45.7	35 27.91	0.08	44.61	16 36 12.60	12.09
	O. Arg. S. 15950 .	8	25.8	27.9	29.6	40.2	41.5	42.7	44.1	45.4	56.3	57.6	59.9	38 42.82	0.24	44.61	16 39 27.67	19.28
	O. Arg. S. 16043 .	9	26.4	28.4	29.8	39.8	40.9	42.3	43.5	44.6	54.6	55.8	58.0	43 42.19	0.20	44.61	16 44 27.00	17.98
	O. Arg. S. 16076 .	10	59.6	1.7	3.0	13.0	14.1	15.4	16.8	17.8	. .	. .	. .	45 10.18	5.48	44.61	16 46 0.27	17.98
	O. Arg. S. 16256 .	11	23.3	25.3	26.6	36.7	37.8	39.1	40.3	41.4	51.6	52.8	55.0	54 39.08	0.20	44.61	16 55 23.89	18.04
	Weisse 46 . . .	12	35.0	37.0	38.2	47.9	49.0	50.0	51.2	52.5	2.0	3.0	5.2	3 50.09	0.15	44.61	17 4 34.85	16.30
	B. A. C. 5833 . .	13	32.2	34.5	36.0	47.0	48.2	49.7	51.1	52.4	3.7	5.0	7.4	9 49.75	+ 0.25	44.61	17 10 34.61	19.83
	Weisse 186 . . .	14	. .	. .	. .	. .	. .	. .	35.2	37.6	38.9	40.1	41.5	11 38.60	— 33.59	44.61	17 11 49.62	16.28
	B. A. C. 5868 . .	15	. .	. .	. .	. .	. .	. .	40.1	42.7	44.0	45.3	46.8	16 43.78	— 36.65	44.60	17 16 51.73	18.76
	b Ophiuchi . . .	16	7.0	9.0	10.4	20.9	21.9	23.3	24.6	25.7	36.3	37.6	39.9	17 33.33	+ 0.22	44.60	17 18 8.15	18.75
	δ Ursæ Minoris . .	†17	. .	. .	. .	58.0	20.0	51.0	8.0	49.0	10.5	32.0	53.0	22 57.69	— 7 19.42	44.60	. . . .	67.79
	α Tauri	18	7.7	9.9	11.4	20.9	22.1	23.3	24.5	25.6	35.7	36.9	39.1	27 23.37	+ 0.17	44.81	4 28 8.35	14.88
	Venus I	19	41.7	43.9	45.4	55.6	56.6	58.0	59.2	0.4	10.9	12.1	14.3	7 58.01	+ 0.17	44.82	5 8 43.00	. .
	Venus II . . .	20	19.7	21.4	22.5	23.6	26.3	. .	31.7	34.2	35.7	37.0	38.4	7 59.05	— 0.08	44.82	5 8 43.79	. .
17	Sun I	21	19.5	21.8	23.1	33.5	34.6	35.9	37.3	38.4	48.9	50.2	52.4	43 35.96	+ 0.17	44.84	5 44 20.97	. .
	Sun II	22	37.6	39.8	41.2	51.5	52.6	53.9	55.2	56.4	6.7	8.1	10.3	45 53.94	0.17	44.84	5 46 38.95	. .
	α Canis Majoris . .	23	9.1	11.1	12.4	22.3	23.5	24.8	25.8	26.9	36.8	38.2	40.5	38 24.67	+ 0.15	44.87	6 39 9.69	11.11
	α Canis Minoris . .	†24	. .	. .	. .	38.8	40.0	42.0	57.2	59.6	1.0	2.2	3.5	31 53.04	— 25.99	44.90	7 32 11.95	13.58
	Polaris, S. P. . .	25	. .	. .	. .	24.0	43.5	55.0	6.0	25.0	. .	. .	. .	8 54.70	— 8.79	45.07	. . . .	88.55
	α Virginis	26	4.3	6.3	7.6	17.2	18.2	19.4	20.6	21.8	31.5	32.6	34.8	17 19.48	+ 0.15	45.08	13 18 4.71	— 15.46
	Jupiter I . . .	27	. .	. .	. .	. .	. .	. .	18.2	20.6	21.9	23.1	24.4	6 21.64	— 34.88	45.13	15 6 31.89	+ 1.89
	β Libræ	28	44.4	46.3	47.7	57.3	58.3	59.4	0.6	1.8	11.6	12.8	14.8	8 59.55	+ 0.17	45.13	15 9 44.85	— 16.27
	O. Arg. S. 14636 .	29	3.4	5.5	6.9	17.6	18.5	19.9	21.1	22.4	33.0	34.3	36.6	24 19.93	0.21	45.14	15 25 5.28	18.16
	γ Libræ	30	58.1	0.2	1.5	11.2	12.3	13.6	14.8	15.9	25.8	26.9	29.0	27 13.58	0.18	45.14	15 27 58.90	16.97
	O. Arg. S. 14839 .	31	45.6	47.8	49.0	59.2	0.4	1.8	3.0	4.0	14.5	15.8	18.1	37 1.75	0.20	45.15	15 37 47.10	17.93
	O. Arg. S. 14933 .	32	50.3	52.5	53.9	4.4	5.5	6.9	8.2	9.5	20.0	21.5	23.6	42 6.94	0.21	45.15	15 42 52.30	18.36
	Moon I	33	23.6	25.6	27.0	37.8	38.8	40.1	41.5	42.6	53.3	54.4	56.7	4 40.13	0.20	45.17	16 5 25.50	. .
	δ Ophiuchi . . .	34	16.5	18.5	19.7	29.2	30.2	31.4	32.5	33.6	43.2	44.5	46.5	6 31.44	0.16	45.17	16 7 16.77	16.02
	σ Scorpii	35	57.8	0.0	1.3	11.7	12.8	14.2	15.6	16.7	27.4	28.8	30.9	12 14.29	0.21	45.17	16 12 59.67	18.61
	α Scorpii	36	6.5	8.7	10.0	20.7	21.8	23.2	24.4	25.5	36.4	37.6	39.9	20 23.15	+ 0.22	45.17	16 21 8.54	18.78
18	Sun I	37	. .	. .	. .	57.7	59.2	1.3	17.9	20.5	21.8	23.3	24.8	48 13.31	— 28.44	. .	. . . .	. .
	Sun II	38	46.4	48.5	49.9	0.4	1.5	2.8	4.0	5.2	. .	. .	. .	49 57.34	+ 5.45	. .	. . . .	. .
	Jupiter I . . .	39	50.3	51.8	53.0	54.1	56.6	. .	59.1	1.6	3.0	4.5	5.7	5 27.97	— 0.06	45.74	15 6 13.65	. .
	Jupiter II . . .	40	15.3	17.4	18.5	28.5	29.6	30.8	31.9	33.1	43.2	44.4	46.5	5 30.84	+ 0.19	45.74	15 6 16.77	. .
	β Libræ	41	44.0	45.8	47.0	56.9	57.9	59.0	0.2	1.3	10.7	12.0	14.2	8 59.00	0.17	45.74	. . . .	16.26
	σ Scorpii	42	57.2	59.4	0.6	11.0	12.3	13.7	14.9	16.1	26.8	28.1	30.3	12 13.67	0.21	45.77	16 12 59.65	18.61
	α Scorpii	43	5.9	8.2	9.6	19.9	21.0	22.4	23.8	25.0	35.6	37.0	39.2	20 22.51	+ 0.22	45.78	. . . .	18.79
	η Ophiuchi . . .	†44	37.4	39.4	40.7	5.2	6.3	8.5	24.5	26.7	28.0	29.3	30.7	2 8.79	— 15.72	45.79	17 3 38.86	— 17.60
	Moon I	†45	58.2	0.4	1.8	12.2	13.4	14.7	16.0	17.1	27.8	29.2	31.2	6 14.73	+ 0.20	—45.79	17 7 0.72	. .
19	Moon II . . .	†46	40.3	42.4	43.8	54.3	55.5	56.7	58.0	59.2	9.9	11.1	13.4	11 56.78	. .	. .	. . . .	. .
20	Sun I	†47	46.0	48.0	49.6	59.9	1.0	2.4	3.6	4.8	15.3	16.5	18.8	56 2.35	. .	. .	. . . .	. .
	Sun II	†48	3.9	5.8	7.3	17.8	18.9	20.2	21.5	22.5	33.2	34.4	36.7	58 20.20	. .	. .	. . . .	. .
	Jupiter I . . .	49	35.8	37.7	39.1	49.0	49.9	51.2	52.6	53.6	3.6	4.8	6.8	4 51.28	+ 0.21	+47.11	15 5 38.60	. .

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 17, 11.4	+ 45.02	+ 0.031	+ 0.150
18, 15.8	45.76	0.026	. .
20, 17.7	+ 47.14	+ 0.011	+ 0.150

17. Blurred.
24. Through clouds.
44. Very faint.
45. Just visible.
46. Through thick clouds.
47–48. Through clouds.

June 16, 17h. 40m. Image east 0.22 r. Clamp east.
June 17. Hazy; stars faint.
June 18. Very hazy.

June 16–17, 4h. to 14h. n. = + 0.02 s.
15h. to 17h. — 0.10.
18, . . . 0.10.
20, . . . 0.19.
20–21, 5h. to 8h. — 0.10.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 20	Jupiter II . . .	1	17. 0	18. 4	19. 7	20. 8	23. 3	. .	25. 8	28. 2	29. 8	31. 0	32. 3	4 54. 63	— 0. 04	+47. 11	15 5 41. 70	. .
R.	β Libræ	2	42. 4	44. 5	45. 8	55. 4	56. 4	57. 6	59. 0	0. 0	7. 4	10. 9	12. 8	8 57. 65	+ 0. 18	47. 11	15 9 44. 94	— 16. 26
	O. Arg. S. 14871 .	3	13. 3	15. 5	16. 9	27. 5	28. 6	29. 9	31. 4	32. 6	43. 1	44. 3	46. 6	38 29. 97	+ 0. 26	47. 12	15 39 17. 35	18. 33
	O. Arg. S. 14878 .	4	. .	. .	. .	15. 1	16. 4	18. 8	35. 5	38. 1	39. 5	40. 9	42. 5	39 30. 85	— 28. 57	47. 12	15 39 49. 40	18. 35
	ε Serpentis . . .	5	3. 3	5. 2	6. 6	16. 0	17. 0	18. 2	19. 4	20. 5	30. 0	31. 3	33. 4	43 18. 26	+ 0. 13	47. 12	15 44 5. 51	15. 21
	* — 21° 49′ . .	6	51. 0	53. 3	54. 7	4. 9	5. 9	7. 3	8. 6	9. 7	20. 0	21. 3	23. 6	48 7. 30	0. 24	47. 12	15 48 54. 66	17. 96
	B. A. C. 5296 . .	7	12. 2	14. 4	15. 8	26. 7	27. 9	29. 3	30. 6	31. 8	43. 0	44. 3	46. 8	50 29. 35	0. 28	47. 12	15 51 16. 75	19. 03
	O. Arg. S. 15147 .	8	49. 9	52. 0	53. 4	3. 9	5. 0	6. 3	7. 5	8. 7	19. 2	20. 5	22. 9	54 6. 30	0. 25	47. 12	15 54 53. 67	18. 27
	O. Arg. S. 15205 .	9	0. 2	2. 5	3. 8	14. 0	15. 2	16. 5	17. 7	19. 0	29. 5	30. 7	33. 0	57 16. 55	0. 25	47. 12	15 58 3. 92	18. 23
	O. Arg. S. 15271 .	10	33. 2	35. 4	36. 9	47. 6	48. 8	50. 3	51. 8	52. 9	4. 0	5. 4	7. 7	59 50. 36	+ 0. 28	47. 12	16 0 37. 76	19. 16
	O. Arg. S. 15359 .	11	. .	. .	. .	39. 4	40. 9	43. 1	0. 8	3. 6	5. 0	6. 5	8. 2	3 55. 94	— 29. 68	47. 12	16 4 13. 38	19. 17
	O. Arg. S. 15388 .	12	19. 5	21. 8	23. 3	34. 1	35. 3	36. 8	38. 3	39. 5	50. 5	51. 9	54. 3	4 36. 85	+ 0. 28	47. 12	16 5 24. 25	19. 19
	O. Arg. S. 15452 .	13	22. 5	24. 7	25. 9	36. 9	38. 0	39. 5	41. 0	42. 2	53. 1	54. 5	56. 9	7 39. 56	0. 28	47. 12	16 8 26. 96	19. 16
	O. Arg. S. 15566 .	14	44. 8	46. 8	48. 4	58. 8	59. 8	1. 2	2. 4	3. 4	13. 8	15. 0	17. 4	14 1. 07	0. 24	47. 12	16 14 48. 43	18. 30
	B. A. C. 5476 . .	15	15. 5	17. 9	19. 1	30. 0	31. 5	32. 7	34. 0	35. 4	46. 5	47. 7	49. 9	16 32. 75	0. 28	47. 12	16 17 20. 15	19. 27
	O. Arg. S. 15643 .	16	59. 3	1. 5	3. 0	13. 9	15. 0	16. 4	17. 8	19. 0	30. 0	31. 4	33. 5	18 16. 44	+ 0. 28	47. 12	16 19 3. 84	19. 19
	O. Arg. S. 15659 .	17	. .	. .	. .	16. 4	17. 7	19. 7	36. 2	39. 0	40. 3	41. 8	43. 3	20 31. 80	— 28. 28	47. 12	16 20 50. 64	18. 53
	O. Arg. S. 15783 .	18	11. 1	13. 3	14. 8	25. 0	26. 0	27. 5	28. 7	29. 8	40. 2	41. 5	43. 7	29 27. 42	+ 0. 24	47. 13	16 30 14. 79	18. 38
	O. Arg. S. 15804 .	19	. .	. .	. .	54. 0	55. 2	56. 6	58. 0	59. 2	10. 2	11. 4	13. 7	31 2. 29	— 5. 37	47. 13	16 31 44. 05	19. 25
	O. Arg. S. 15881 .	20	36. 4	38. 5	39. 8	49. 6	51. 0	52. 3	53. 6	54. 7	4. 8	6. 2	8. 5	34 52. 31	+ 0. 23	47. 13	16 35 39. 67	18. 12
	O. Arg. S. 16043 .	21	23. 8	25. 9	27. 4	37. 0	38. 4	39. 7	41. 0	42. 1	52. 1	53. 6	55. 6	43 39. 69	0. 22	47. 13	16 44 27. 04	18. 00
	O. Arg. S. 16076 .	22	57. 3	59. 4	0. 6	10. 7	11. 8	13. 1	14. 3	15. 4	25. 5	26. 9	29. 0	45 13. 09	0. 22	47. 13	16 46 0. 44	18. 00
	κ Ophiuchi . .	23	14. 9	16. 9	18. 2	27. 8	28. 8	30. 0	31. 3	32. 2	42. 0	43. 2	45. 4	50 30. 06	0. 12	47. 13	16 51 17. 31	14. 69
	O. Arg. S. 16233 .	24	59. 5	1. 7	3. 0	13. 1	14. 2	15. 4	16. 6	17. 8	28. 3	29. 6	31. 8	53 15. 55	0. 23	47. 13	16 54 2. 91	18. 20
	O. Arg. S. 16302 .	25	22. 1	24. 3	25. 6	36. 4	37. 5	39. 0	40. 4	41. 5	52. 5	53. 7	56. 2	56 39. 02	0. 28	47. 13	16 57 26. 43	19. 40
	Weisse 46 . . .	26	32. 7	34. 6	35. 9	45. 5	46. 4	47. 8	49. 0	50. 0	59. 8	0. 7	2. 9	3 47. 75	0. 17	47. 13	17 4 35. 05	16. 33
	B. A. C. 5833 . .	27	30. 0	32. 3	33. 7	44. 8	45. 9	47. 2	48. 7	50. 0	1. 1	2. 6	4. 8	9 47. 37	0. 29	47. 13	17 10 34. 79	19. 86
	* — 22° 52′ . .	28	0. 0	2. 2	3. 6	13. 9	14. 9	16. 2	17. 7	18. 8	29. 1	30. 5	32. 6	14 16. 32	0. 24	47. 13	17 15 3. 69	18. 61
	O. Arg. S. 16844 .	29	43. 2	45. 4	46. 5	56. 8	57. 8	59. 0	0. 2	1. 5	11. 6	12. 7	15. 0	20 59. 06	0. 22	47. 14	17 21 46. 42	18. 15
	B. A. C. 6279 . .	30	27. 7	29. 9	31. 0	40. 9	41. 9	43. 2	44. 5	45. 6	55. 4	56. 5	58. 6	20 43. 20	+ 0. 20	47. 15	17 21 30. 55	17. 55
	B. A. C. 6284 . .	31	. .	. .	. .	15. 6	16. 6	17. 7	18. 9	20. 0	30. 0	31. 6	33. 3	21 22. 96	— 4. 92	47. 15	18 22 5. 19	17. 55
	1 Aquilæ	32	49. 6	51. 7	52. 8	2. 4	3. 4	4. 7	5. 9	6. 1	16. 6	17. 8	20. 0	27 4. 64	+ 0. 18	47. 15	18 27 51. 97	16. 78
	51 Cephei, S. P. . .	†33	. .	. .	. .	34. 0	12. 0	46. 0	20. 0	56. 0	. .	. .	. .	34 45. 60	— 0. 16	47. 15	. . . . .	114. 41
	σ Sagittarii . . .	34	49. 9	52. 2	53. 6	4. 0	5. 2	6. 7	8. 1	9. 1	20. 0	21. 2	23. 3	46 6. 66	+ 0. 26	47. 15	18 46 54. 07	19. 04
	Dorpat 2417 (1st *)	35	7. 7	8. 9	10. 0	11. 3	13. 7	. .	14. 0	16. 5	17. 7	19. 0	20. 3	48 43. 91	— 0. 10	47. 15	18 49 30. 96	15. 42
	Dorpat 2417 (2d *)	36	30. 2	32. 0	33. 4	43. 0	44. 0	45. 2	46. 3	47. 5	57. 1	58. 5	0. 3	48 45. 23	+ 0. 14	47. 15	18 49 32. 52	15. 42
	Dorpat 2425, S^d. .	37	50. 6	52. 0	53. 2	54. 6	56. 8	. .	57. 6	59. 8	1. 2	2. 5	3. 7	52 27. 20	— 0. 06	47. 15	18 53 14. 29	16. 74
	Dorpat 2425, N^d. .	38	11. 9	13. 6	15. 3	24. 6	25. 7	26. 9	28. 0	29. 2	38. 9	40. 1	42. 2	52 26. 95	+ 0. 18	47. 15	18 53 14. 28	16. 74
	Moon II . . .	†39	5. 3	7. 6	9. 0	19. 0	20. 1	21. 6	22. 8	24. 0	34. 4	35. 7	37. 9	15 21. 58	0. 22	47. 16	19 16 8. 96	. .
	κ Aquilæ	40	35. 5	37. 5	38. 8	48. 2	49. 3	50. 5	51. 8	52. 9	2. 7	4. 0	5. 9	28 50. 65	0. 18	47. 16	19 29 37. 99	16. 51
	P Sagittarii . . .	41	45. 0	47. 0	48. 4	58. 3	59. 2	0. 6	1. 8	2. 8	12. 9	14. 2	16. 2	34 0. 58	0. 21	47. 16	19 34 47. 95	17. 47
	f Sagittarii . . .	42	36. 0	28. 1	29. 5	39. 7	40. 6	41. 9	43. 1	44. 5	54. 5	55. 8	58. 0	37 41. 97	+ 0. 23	47. 16	19 38 29. 36	17. 86
	γ Aquilæ	43	. .	. .	. .	1. 2	2. 3	3. 6	4. 8	5. 8	15. 7	17. 0	19. 1	39 8. 69	— 4. 92	47. 16	19 39 50. 93	14. 76
Y.	α Tauri	44	. .	. .	. .	. .	. .	. .	52. 2	54. 7	56. 0	57. 2	58. 6	27 55. 74	34. 91	47. 56	. . . . .	14. 98
	Venus I . . .	45	51. 9	53. 9	. .	. .	. .	. .	. .	. .	21. 2	22. 3	24. 8	29 10. 82	2. 49	47. 59	5 29 55. 93	. .
	Venus II . . .	†46	6. 5	7. 6	8. 7	10. 1	11. 5	. .	42. 0	44. 6	45. 9	47. 3	48. 7	29 27. 29	— 18. 23	47. 59	5 29 56. 65	. .
21	Sun I	47	54. 7	56. 9	58. 2	8. 5	9. 7	11. 0	12. 2	13. 4	24. 2	25. 2	27. 5	0 11. 05	+ 0. 12	47. 61	6 0 58. 78	. .
	Sun II	48	12. 6	. .	16. 2	26. 5	27. 5	28. 9	30. 2	31. 4	41. 8	. .	45. 3	2 28. 93	+ 0. 12	47. 61	6 3 16. 66	. .
	α Canis Minoris . .	49	. .	. .	. .	35. 9	37. 4	39. 4	54. 4	57. 0	58. 2	. .	. .	31 47. 03	— 22. 72	47. 66	7 32 11. 97	13. 59
	δ Ursæ Minoris . .	50	22. 5	55. 0	17. 0	56. 5	14. 0	34. 0	54. 5	12. 5	54. 5	15. 0	50. 0	15 35. 05	— 1. 18	+48. 02	. . . . .	— 68. 07

33. Unsteady.
39. Very uneven.
46. Poor observation.

June 20–21, 5h. to 8h. n. = — 0. 10 s.
21, 18h. to 21h. — 0. 22.
June 21, Hazy and cloudy.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 21, 15. 2	+ 47. 92	+ 0. 034	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 21	1 Aquilæ	1	. .	50. 8	52. 0	1. 6	2. 6	3. 8	5. 0	. .	15. 8	17. 0	19. 0	27 5. 29	— 1. 25	+48. 03	18 27 52. 07	— 16. 79
Y.	O. Arg. S. 18493 .	2	. .	. .	. .	15. 4	16. 7	19. 1	35. 6	38. 2	39. 6	. .	. .	30 27. 43	— 24. 52	48. 03	18 30 50. 94	18. 67
	51 Cephei, S. P. . .	3	. .	. .	. .	31. 0	10. 0	45. 0	21. 0	58. 5	. .	. .	. .	34 45. 10	+ 0. 46	48. 04	18 36 33. 60	114. 50
	B. A. C. 6414 . .	4	. .	. .	. .	11. 0	12. 0	13. 5	14. 9	16. 1	27. 5	28. 8	31. 0	43 19. 35	— 5. 47	48. 04	18 44 1. 92	19. 75
	ν² Sagittarii . . .	5	53. 5	55. 4	56. 7	7. 0	8. 0	9. 4	. .	12. 0	. .	. .	. .	46 3. 14	+ 6. 62	48. 04	18 46 57. 80	18. 56
	* — 19° 21′ . .	6	35. 7	37. 8	39. 4	49. 2	50. 3	51. 6	. .	53. 8	. .	5. 3	7. 5	48 50. 07	1. 77	48. 04	18 49 39. 88	18. 07
	Lalande 35497 . .	7	3. 9	5. 9	7. 3	. .	18. 3	19. 7	. .	. .	32. 3	33. 7	. .	54 17. 24	+ 2. 68	48. 05	18 55 7. 97	18. 06
	* — 23° 28′ . .	8	18. 1	. .	21. 8	32. 0	33. 2	34. 5	. .	36. 8	47. 5	48. 7	50. 9	57 35. 94	— 1. 18	48. 05	18 58 22. 81	18. 57
	O. Arg. S. 19120 .	9	30. 7	33. 0	34. 2	44. 6	. .	46. 9	48. 3	49. 4	59. 8	1. 2	3. 5	59 47. 16	+ 0. 13	48. 05	19 0 35. 34	18. 55
	κ Aquilæ	10	34. 8	36. 9	38. 0	1. 6	2. 7	4. 9	20. 2	22. 6	23. 8	25. 4	26. 5	29 5. 22	— 15. 26	48. 07	19 29 38. 03	16. 53
	e² Sagittarii . . .	11	43. 9	46. 1	47. 4	57. 4	58. 4	59. 7	0. 8	2. 0	12. 0	13. 2	15. 5	33 59. 67	+ 0. 22	48. 07	19 34 47. 96	17. 48
	f Sagittarii . . .	12	25. 0	27. 2	28. 4	38. 6	39. 7	40. 9	42. 3	43. 3	53. 7	54. 9	57. 0	37 41. 00	+ 0. 24	48. 07	19 38 29. 31	17. 88
	Lacaille 8288 . .	13	. .	. .	. .	. .	. .	. .	13. 5	16. 3	17. 7	. .	20. 9	50 17. 10	— 38. 49	48. 08	19 50 26. 69	— 19. 17
	λ Ursæ Minoris . .	14	. .	. .	.	57. 0	49. 0	53. 0	54. 0	49. 0	. .	. .	. .	59 52. 40	— 1. 17	48. 08	20 0 39. 31	+ 194. 71
	α² Capricorni . . .	15	30. 3	32. 4	33. 5	43. 3	44. 3	45. 5	46. 7	47. 9	57. 6	58. 9	0. 9	9 45. 57	+ 0. 21	48. 09	20 10 33. 87	— 16. 91
	B. A. C. 6992 . .	16	45. 9	47. 3	48. 6	49. 8	52. 2	. .	54. 5	57. 0	58. 2	59. 4	0. 8	12 23. 37	— 0. 03	48. 09	20 13 11. 43	17. 08
	β Capricorni . . .	17	59. 9	1. 4	2. 8	4. 1	6. 3	. .	8. 5	11. 0	12. 4	13. 7	15. 0	12 37. 51	+ 0. 07	48. 09	20 13 25. 67	17. 06
	Moon II	18	11. 0	13. 3	14. 5	25. 0	26. 0	27. 3	28. 5	29. 7	39. 8	41. 0	43. 1	17 27. 20	+ 0. 22	48. 09	20 18 15. 51	. .
	μ Aquarii	†19	. .	. .	. .	45. 9	47. 2	49. 2	4. 7	7. 2	8. 4	9. 6	10. 9	45 0. 39	— 26. 19	48. 11	20 45 22. 31	16. 32
R.	α Tauri	20	. .	. .	. .	. .	. .	. .	51. 5	54. 0	55. 3	56. 5	57. 8	27 55. 02	— 34. 92	48. 42	. . . .	— 15. 00
	Mercury I . . .	21	42. 6	44. 7	46. 0	56. 0	57. 0	58. 4	59. 7	0. 7	11. 0	12. 3	14. 4	31 58. 44	+ 0. 12	48. 42	4 32 46. 98	+ 0. 25
22	Sun I	22	3. 4	5. 6	7. 1	17. 3	18. 4	19. 8	21. 2	22. 3	32. 7	34. 0	36. 2	4 19. 82	0. 11	48. 44	6 5 8. 37	. .
	Sun II	23	21. 3	23. 5	24. 8	35. 2	36. 3	37. 6	38. 8	40. 2	50. 7	52. 0	54. 0	6 37. 67	0. 11	48. 44	6 7 26. 22	. .
	ψ Bootis	24	4. 2	6. 4	7. 9	48. 4	49. 6	50. 9	52. 3	53. 5	4. 4	5. 7	8. 0	57 51. 03	+ 0. 09	48. 68	14 58 39. 80	— 13. 05
	Jupiter I . . .	25	39. 7	41. 1	42. 5	43. 5	46. 2	. .	48. 9	51. 0	52. 5	53. 8	55. 2	4 17. 34	— 0. 05	48. 68	15 5 5. 97	. .
	Jupiter II . . .	26	4. 6	6. 6	8. 0	18. 0	19. 0	20. 2	21. 3	22. 5	32. 5	33. 7	36. 0	4 20. 22	+ 0. 20	48. 68	15 5 9. 10	. .
	β Libræ	27	40. 9	42. 9	44. 2	53. 8	54. 8	56. 0	57. 1	58. 2	8. 0	9. 2	10. 3	8 55. 95	0. 19	48. 68	15 9 44. 82	16. 25
	ι Capricorni . . .	28	38. 7	40. 8	42. 1	52. 1	53. 2	54. 3	55. 5	56. 7	6. 7	8. 2	10. 2	13 54. 41	+ 0. 22	48. 84	21 14 43. 47	16. 71
	1 Pegasi	29	. .	. .	. .	14. 3	15. 9	17. 7	34. 0	36. 4	37. 7	39. 0	40. 4	15 29. 42	— 27. 45	48. 84	21 15 50. 81	14. 19
	Moon II	30	10. 6	12. 7	14. 1	23. 9	25. 0	26. 1	27. 5	28. 6	38. 7	39. 8	42. 0	17 26. 27	+ 0. 19	48. 85	21 18 15. 31	. .
	β Aquarii	31	22. 9	25. 0	26. 2	35. 7	36. 8	38. 0	39. 1	40. 3	49. 9	51. 0	53. 2	23 38. 01	0. 17	48. 85	21 24 27. 03	15. 82
	ξ Aquarii	32	29. 6	31. 6	32. 7	42. 5	43. 5	44. 7	45. 9	46. 9	56. 7	58. 1	59. 9	29 44. 73	+ 0. 18	48. 85	21 30 33. 76	15. 95
Y.	α Tauri	33	. .	. .	. .	31. 3	32. 6	34. 7	50. 5	53. 0	. .	55. 6	57. 0	27 44. 96	— 25. 83	49. 73	. . . .	15. 02
23	μ Capricorni . . .	34	50. 3	52. 4	53. 8	3. 5	4. 5	5. 7	6. 9	8. 0	17. 9	19. 2	21. 5	45 5. 79	+ 0. 21	49. 82	21 45 55. 82	16. 26
	79 Draconis . . .	35	34. 0	40. 5	44. 9	17. 8	20. 9	25. 4	29. 4	32. 8	6. 1	9. 5	17. 0	50 25. 30	— 0. 14	49. 82	21 51 14. 98	7. 41
	α Aquarii	36	45. 9	47. 9	49. 0	58. 6	59. 6	0. 8	1. 9	3. 0	12. 8	13. 9	16. 0	58 0. 85	+ 0. 15	49. 82	21 58 50. 82	15. 33
	θ Aquarii	37	37. 3	39. 2	40. 3	50. 0	51. 1	52. 3	53. 4	54. 4	4. 2	5. 3	7. 4	8 52. 26	0. 18	49. 83	22 9 42. 27	15. 65
	ρ Aquarii	38	0. 2	2. 4	3, 5	13. 0	14. 0	15. 2	16. 3	17. 5	27. 2	28. 4	30. 4	12 15. 29	0. 18	49. 83	22 13 5. 29	15. 59
	Moon II	†39	57. 8	59. 9	1. 1	10. 9	11. 9	13. 2	14. 3	15. 4	25. 4	26. 5	28. 6	15 13. 18	+ 0. 17	49. 83	22 16 3. 18	. .
	ζ Aquarii, (1st *) .	40	26. 5	27. 8	29. 0	30. 2	32. 6	. .	32. 8	35. 3	36. 4	37. 6	38. 9	21 2. 71	— 0. 09	49. 84	22 21 52. 46	15. 20
	ζ Aquarii, (2d *) .	41	47. 7	49. 6	50. 8	0. 4	1. 4	2. 7	3. 8	4. 8	14. 4	15. 6	17. 6	21 2. 62	+ 0. 15	49. 84	22 21 52. 61	15. 20
	η Aquarii	42	20. 0	21. 9	23. 2	32. 6	33, 5	34. 8	36. 0	37. 1	46. 7	47. 9	50. 0	27 34. 88	0. 15	49. 84	22 28 24. 87	15. 18
	κ Aquarii	43	40. 5	42. 4	43. 7	53. 4	54. 3	55. 5	56. 7	57. 6	7. 4	8. 6	10. 6	29 55. 52	0. 17	49. 84	22 30 45. 53	15. 30
R. 24	Sun I	44	20. 5	22. 8	24. 1	34. 2	35. 5	. .	38. 0	39. 2	49. 8	51. 0	52. 3	12 36. 74	0. 08	50. 16	6 13 26. 98	. .
	Sun II	45	38. 4	40. 4	41. 8	52. 2	53. 3	54. 7	55. 9	57. 0	7. 6	8. 8	11. 0	14 54. 65	+ 0. 09	50. 16	6 15 44. 90	. .
	δ Aquarii	46	. .	. .	. .	35. 2	36. 3	37. 5	38. 7	39. 8	49. 9	51. 1	53. 2	46 42. 71	— 4. 95	50. 77	22 47 28. 53	15. 54
	α Piscis Australis .	47	. .	. .	. .	16. 7	18. 0	19. 4	20. 8	22. 0	33. 0	34. 4	36. 9	49 25. 15	— 5. 44	50. 77	22 50 10. 48	16. 09
	α Pegasi	48	55. 7	57. 8	59. 1	8. 9	9. 9	11. 2	12. 4	13. 5	23. 5	24. 6	26. 7	57 11. 21	+ 0. 11	50. 78	22 58 2. 10	14. 71
	φ Aquarii	49	13. 3	15. 3	16. 5	26. 1	27. 1	28. 3	29. 5	30. 5	40. 2	41. 4	43. 5	6 28. 34	0. 18	50. 78	23 7 19. 30	15. 07
	γ Piscium	50	3. 8	5. 8	7. 0	16. 4	17. 5	18. 6	19. 8	20. 8	30. 4	31. 6	33. 6	9 18. 66	+ 0. 15	+50. 78	23 10 9. 59	— 15. 10

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 22, 15. 5	+ 48. 69	+ 0. 027	+ 0. 150
23, 18. 6	49. 73	0. 028	. .
24, 23. 1	+ 50. 78	+ 0. 037	+ 0. 160

19. Through clouds.
39. Steady.

June 22. Hazy.
23. Thick hazy.

	s.
June 21–22, 4h. to 7h. n. =	— 0. 12.
22, 14h. to 16h.	0. 16.
21h. to 22h.	0. 20.
22–23, 4h. to 5h.	0. 12.
21h. to 23h.	0. 20.
24, 22h. to 0h.	— 0. 16.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
June 24	Moon II	1	59.9	2.0	3.3	12.9	14.0	15.2	16.5	17.6	27.4	28.5	30.7	11 15.27	+ 0.16	+50.78	23 12 6.21	. .
R.	ι Piscium	2	54.0	56.0	57.3	6.8	7.8	9.0	10.2	11.2	20.9	22.0	24.0	32 9.02	0.14	50.80	23 32 59.96	— 14.91
Y.	Mercury II	3	6.0	8.3	9.5	19.7	20.8	22.0	23.3	24.5	34.8	36.2	38.1	48 22.11	0.13	50.92	4 49 13.16	0.24
25	Sun I	4	28.8	31.0	32.3	42.8	43.9	45.1	46.5	47.6	58.2	59.5	1.7	16 45.22	0.13	50.98	6 17 36.33	. .
	Sun II	5	46.7	48.7	50.0	0.6	1.6	2.9	4.2	5.4	15.9	17.1	19.4	19 2.95	+ 0.13	50.98	6 19 54.06	. .
	α Canis Minoris	6	18.5	19.5	20.7	21.9	22.9	. .	51.2	53.5	54.6	56.0	57.5	31 37.63	— 16.73	51.02	7 32 11.92	13.60
	β Geminorum	7	7.0	8.0	9.4	10.7	12.0	. .	43.8	46.5	47.9	49.2	50.8	36 28.53	— 18.96	51.02	7 37 0.59	15.92
	α Leonis	8	2.5	4.5	5.9	15.6	16.7	17.9	19.1	20.2	30.0	31.2	33.3	0 17.90	+ 0.14	51.11	10 1 9.15	14.32
	O. Arg. S. 14080	9	54.4	56.7	58.0	8.6	9.7	11.0	12.3	13.4	24.2	25.4	27.7	48 11.04	+ 0.28	51.29	14 49 2.61	17.71
	β Ursæ Minoris	10	. .	. .	. .	. .	. .	. .	13.2	22.4	27.0	32.0	36.4	52 26.20	— 2 7.61	51.29	14 51 9.88	0.76
	* — 21° 51′	11	8.4	10.4	11.6	21.9	23.0	24.3	25.5	26.7	37.0	38.4	40.6	57 24.35	+ 0.21	51.30	14 58 15.86	17.42
	Jupiter I	12	15.0	17.1	18.3	28.3	29.3	30.5	31.7	32.8	42.9	44.2	46.3	3 30.58	+ 0.20	51.30	15 4 22.08	. .
	Jupiter II	13	56.2	57.7	58.9	0.1	2.4	. .	5.1	7.7	9.0	10.3	11.6	3 33.90	— 0.05	51.30	15 4 25.15	. .
	β Libræ	14	38.2	40.1	41.4	51.0	52.1	53.4	54.6	55.6	5.3	6.5	8.7	8 53.35	+ 0.18	51.30	15 9 44.83	16.24
	Lacaille 6330	15	38.4	40.9	42.6	54.5	55.8	57.3	58.8	0.1	12.4	13.8	16.4	11 57.36	0.28	51.31	15 12 48.95	19.64
	O. Arg. S. 14513	16	11.8	14.0	15.2	25.5	26.5	27.8	29.1	30.2	40.7	41.9	44.3	15 27.91	0.21	51.31	15 16 19.43	17.68
	O. Arg. S. 14554	17	45.3	47.4	48.8	59.0	0.1	1.4	2.7	3.8	14.2	15.5	17.6	18 1.44	0.21	51.31	15 18 52.96	17.68
	* — 21° 39′	18	30.8	32.9	34.4	44.5	45.5	46.9	48.1	49.2	59.6	0.8	3.1	28 46.89	0.21	51.32	15 29 38.42	17.76
	Lacaille 6471	19	59.5	2.1	3.6	16.0	17.3	19.0	20.4	21.7	34.4	36.9	38.5	31 19.04	0.29	51.32	15 32 10.65	20.30
	α Serpentis	20	31.0	32.9	34.2	43.8	44.8	46.0	47.1	48.2	57.9	59.1	1.2	36 46.02	0.15	51.32	15 37 37.49	14.99
	B. A. C. 5220	21	19.1	21.4	22.7	33.0	34.1	35.4	36.7	37.9	48.5	49.6	51.8	39 35.47	0.22	51.32	15 40 27.01	18.08
	O. Arg. S. 14925	22	19.1	21.5	22.8	33.3	34.4	35.9	37.1	38.3	48.9	50.2	52.5	41 35.82	0.23	51.32	15 42 27.37	18.40
	* — 21° 33′	23	19.2	21.3	22.6	32.9	34.0	35.2	36.5	37.7	48.0	49.2	51.4	44 35.27	0.21	51.32	15 45 26.80	17.90
	* — 21° 49′	24	46.9	48.8	50.2	0.6	1.7	2.8	4.1	5.2	15.7	16.9	19.1	48 2.91	0.21	51.33	15 48 54.45	17.96
	B. A. C. 5296	25	7.7	10.0	11.5	22.4	23.6	24.9	26.3	27.7	38.7	40.0	42.2	50 25.00	+ 0.24	51.33	15 51 16.57	19.02
	O. Arg. S. 15112	26	. .	. .	.	10.1	11.2	12.4	13.7	14.9	25.6	26.8	29.1	52 17.98	— 5.20	51.33	15 53 4.11	18.26
	O. Arg. S. 15194	27	23.3	25.4	26.7	37.2	38.3	39.6	40.9	42.0	52.5	53.8	56.2	56 39.63	+ 0.22	51.33	15 57 31.18	18.29
	O. Arg. S. 15271	28	28.7	30.9	32.3	43.4	44.6	46.0	47.3	48.5	59.8	1.0	3.3	59 45.98	0.24	51.33	16 0 37.55	19.12
	c^{2} Scorpii	29	51.6	53.8	55.2	5.9	6.9	8.4	9.7	10.9	21.8	23.1	25.3	3 8.42	0.23	51.34	16 3 59.99	18.86
	O. Arg. S. 15416	30	25.6	27.8	29.0	39.3	40.2	41.5	42.8	43.9	54.4	55.4	57.8	5 41.61	0.21	51.34	16 6 33.16	17.98
	O. Arg. S. 15452	31	17.9	20.2	21.7	32.5	33.6	34.9	36.4	37.5	48.6	50.0	52.3	7 35.05	0.24	51.34	16 8 26.63	19.16
	* — 30° 5′	32	26.8	29.1	30.5	41.5	42.7	43.9	45.5	46.6	. .	. .	. .	9 38.32	+ 6.00	51.34	16 10 35.66	19.28
	O. Arg. S. 15566	33	54.3	55.3	56.5	57.8	59.0	. .	29.4	32.1	33.3	34.7	36.2	14 14.86	— 18.00	51.34	16 14 48.20	18.30
	B. A. C. 5476	34	25.8	26.9	28.2	29.7	30.9	. .	3.2	6.0	7.2	8.8	10.2	16 47.69	— 19.08	51.35	16 17 19.96	19.28
	α Scorpii	35	0.2	2.5	3.8	14.3	15.5	16.8	18.2	19.3	30.1	31.4	33.6	20 16.88	+ 0.23	51.35	16 21 8.46	18.80
	O. Arg. S. 15714	36	21.5	23.6	24.8	35.1	36.1	37.4	38.6	39.7	50.0	51.2	53.4	23 37.40	0.21	51.35	16 24 28.96	18.07
	O. Arg. S. 15783	37	6.8	8.9	10.3	20.6	21.7	23.0	24.3	25.5	35.7	37.1	39.4	29 23.03	0.21	51.35	16 30 14.59	18.39
	O. Arg. S. 15836	38	17.9	19.9	21.4	31.7	32.9	34.2	35.4	36.6	47.2	48.5	50.7	34 34.22	0.22	51.35	16 35 25.79	18.62
	O. Arg. S. 15881	39	32.0	34.3	35.5	45.7	46.8	48.0	49.3	50.5	0.7	2.0	4.2	34 48.09	0.21	51.35	16 35 39.65	18.14
	O. Arg. S. 15950	40	19.1	21.3	22.7	33.5	34.7	36.1	37.4	38.6	49.6	50.8	53.2	38 36.09	0.24	51.36	16 39 27.69	19.32
	O. Arg. S. 16043	41	19.5	21.5	22.8	33.0	34.0	35.4	36.6	37.7	47.9	49.2	51.3	43 35.35	+ 0.20	51,36	16 44 26.91	18.02
	Lacaille 7044	42	. .	. .	. .	. .	. .	. .	13.3	16.0	17.5	19.0	20.7	46 17.30	— 39.08	51.36	16 46 29.58	19.76
	κ Ophiuchi	43	10.7	12.7	14.0	23.5	24.6	25.8	27.0	28.0	37.9	39.1	41.1	50 25.85	+ 0.15	51.37	16 51 17.37	14.70
	O. Arg. S. 16233	44	55.2	57.4	58.6	8.9	9.9	11.2	12.4	13.5	23.8	25.0	27.2	53 11.19	0.21	51.37	16 54 2.77	18.23
	* — 28° 43′	45	8.3	10.4	11.8	22.7	24.0	25.2	26.6	27.7	38.8	40.1	42.3	55 25.26	0.24	51.37	16 56 16.87	19.43
	O. Arg. S. 16302	46	17.7	19.8	21.3	32.0	33.2	34.5	35.9	37.1	48.0	49.5	51.6	56 34.60	+ 0.24	51.37	16 57 26.21	— 19.43
	ε Ursæ Minoris	47	. .	. .	. .	41.3	50.9	5.2	57.7	16.0	25.2	34.9	44.4	2 26.95	— 3 13.13	51.37	17 0 5.19	+ 21.79
	α Herculis, (1st *)	48	23.2	25.4	26.6	36.3	37.4	38.7	39.8	41.0	50.8	52.1	54.2	7 38.68	+ 0.14	51.37	17 8 30.19	— 14.27
	α Herculis, (2d *)	49	1.9	3.4	4.5	5.7	8.2	. .	10.2	12.6	14.0	15.3	16.7	7 39.25	— 0.11	51.37	17 8 30.51	14.27
	γ Piscium	50	2.8	4.9	6.1	15.5	16.6	17.8	18.9	20.0	29.7	30.9	32.8	9 17.82	+ 0.16	+51.60	23 10 9.58	— 15.13

s.
June 24-25, 4h. to 10h. n. = — 0.10.
25, 14h. to 2h. — 0.16.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 25, 16.7	+ 51.36	+ 0.037	+ 0.160

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. June 25	κ Piscium	1	53.5	55.4	56.6	6.3	7.2	8.4	9.6	10.6	20.3	21.4	23.5	19 8.44	+ 0.16	+51.61	23 20 0.21	− 14.92
Y.	ι Piscium	2	53.2	55.2	56.4	6.0	7.0	8.2	9.4	10.4	20.2	21.3	23.3	32 8.24	0.15	51.61	23 33 0.00	14.94
	α Andromedæ . .	3	15.7	17.9	19.4	30.2	31.3	32.7	33.9	35.2	46.1	47.4	49.8	0 32.69	0.13	51.63	0 1 24.45	15.00
	Moon II . . .	4	0.0	2.0	3.2	13.1	14.0	15.2	16.4	17.4	27.5	28.6	30.7	6 15.28	0.15	51.63	0 7 7.06	. .
	Polaris	5	. .	. .	. .	17.0	57.0	. .	35.0	15.0	. .	. .	. .	8 44.00	1.84	51.66	1 9 37.50	95.77
26	Moon II . . .	6	21.4	22.9	24.0	25.3	. .	. .	. .	. .	. .	. .	. .	59 23.40	35.44	52.55	1 1 51.39	. .
	Polaris	7	. .	. .	. .	17.5	57.0	43.5	33.0	15.0	. .	. .	. .	8 45.20	1.93	52.55	1 9 39.68	96.69
	β Arietis	8	1.4	3.5	4.9	14.9	16.0	17.3	18.5	19.6	29.9	31.1	33.4	46 17.32	0.13	52.58	. . . .	15.29
	α Arietis	9	23.8	26.0	27.4	37.6	38.8	40.1	41.3	42.5	53.0	54.2	56.4	58 40.10	0.13	52.58	. . . .	15.52
R. 27	Sun I	†10	45.3	47.5	49.0	59.3	0.4	1.7	2.9	4.1	. .	. .	. .	24 56.28	5.44	. .	. . . .	. .
	Sun II	†11	3.0	5.1	6.5	16.9	18.0	19.3	20.6	21.7	. .	. .	. .	27 13.89	5.44	. .	. . . .	. .
	η Piscium	12	5.5	7.7	8.9	18.8	19.7	21.0	22.2	23.3	33.2	34.5	36.7	23 21.05	+ 0.09	53.57	1 24 14.71	14.94
	Polaris	13	. .	. .	. .	. .	. .	. .	18.0	56.0	44.0	38.0	31.0	31 37.40	−22 47.87	53.57	1 9 43.10	97.64
	β Arietis	14	0.5	2.4	4.0	14.0	15.0	16.3	17.6	18.7	28.9	30.3	32.4	46 16.37	+ 0.06	53.57	1 47 10.00	15.31
	Moon II	15	46.8	48.8	50.2	0.1	1.3	2.5	3.7	4.9	15.0	16.2	18.3	56 2.53	0.10	53.57	1 56 56.20	. .
	α Arietis	16	23.0	25.1	26.4	36.7	38.0	39.2	40.5	41.6	52.0	53.3	55.5	58 39.21	+ 0.05	53.57	1 59 32.83	15.55
	η Tauri	17	. .	. .	. .	45.3	46.7	48.9	5.3	8.0	9.3	0.8	12.2	38 0.81	− 28.31	53.41	3 38 25.91	15.86
	α Tauri	18	59.3	1.4	2.8	12.7	13.6	14.9	16.1	17.3	27.3	28.5	30.7	27 14.96	+ 0.12	53.43	4 28 8.51	15.13
	Mercury II . . .	19	58.8	0.9	2.4	12.6	13.6	14.9	16.2	17.4	27.8	29.1	31.2	7 14.99	0.11	53.44	5 8 8.54	0.22
28	Sun I	†20	53.5	55.5	56.8	7.1	8.2	9.5	10.7	12.0	22.4	23.7	26.0	29 9.58	0.10	53.46	6 30 3.14	. .
Y.	Sun II	21	11.0	13.2	14.5	24.8	25.9	27.2	28.5	29.7	40.3	41.5	43.6	31 27.29	0.10	53.46	6 32 20.85	. .
	α Canis Minoris . .	22	3.2	5.2	6.5	16.0	17.0	18.3	19.5	20.7	30.2	31.4	33.5	31 18.32	+ 0.12	53.48	7 32 11.92	13.61
	β Geminorum . . .	†23	4.7	5.7	7.0	8.3	9.5	. .	41.4	44.1	45.5	47.0	48.4	36 26.16	− 19.00	53.48	7 37 0.64	15.93
	α Hydræ	24	46.6	48.7	50.0	59.6	0.6	1.8	3.0	4.2	13.9	15.0	17.1	20 1.86	+ 0.19	53.51	9 20 55.56	13.06
	Jupiter I . . .	25	12.8	14.4	15.7	16.7	19.3	. .	21.9	24.2	25.5	26.9	28.3	2 50.57	− 0.03	53.62	15 3 44.16	. .
	Jupiter II . . .	26	37.8	. .	41.1	51.1	. .	53.4	. .	55.8	5.6	. .	8.9	2 53.39	+ 0.19	53.62	15 3 47.20	. .
	β Libræ	27	35.9	37.9	39.1	48.8	49.8	51.0	52.2	53.3	3.0	4.1	6.2	8 51.03	0.19	53.62	15 9 44.84	16.22
	Lalande 27907 . .	28	26.1	28.3	29.6	39.9	40.9	42.2	43.4	44.6	55.0	56.3	58.4	11 42.25	0.24	53.62	15 12 36.11	17.56
	(* 117) W. + 55° 49′.	29	44.5	48.0	50.4	7.3	8.9	11.0	13.1	15.1	32.2	34.3	37.9	16 11.15	0.03	53.62	15 17 4.80	8.70
	* — 23° 10′ . .	30	1.2	3.4	4.8	15.0	16.2	17.4	18.8	20.0	30.5	31.9	34.0	22 17.56	0.25	53.62	15 23 11.43	17.85
	Weisse 444 . . .	31	50.4	52.5	53.7	3.5	4.6	5.7	6.9	8.0	17.7	18.9	20.9	24 5.71	0.19	53.62	15 24 59.52	16.40
	Lacaille 6439 . .	32	32.2	34.7	35.9	. .	. .	. .	. .	. .	4.0	5.2	7.8	26 49.97	0.25	53.63	15 27 43.85	19.12
	* — 21° 39′ . .	33	28.3	30.5	31.8	42.0	43.2	44.6	45.8	47.0	57.2	58.7	0.8	28 44.54	+ 0.24	53.63	15 29 38.41	− 17.74
	Schwerd 919 . .	34	47.3	59.4	6.8	2.6	8.4	15.8	22.0	29.5	26.0	32.1	44.6	33 15.86	− 0.04	53.63	15 34 9.45	+ 10.80
	* — 20° 48′ . .	35	29.4	31.6	32.8	43.1	44.2	45.5	46.7	47.9	58.1	59.3	1.6	38 45.47	+ 0.24	53.63	15 39 39.34	− 17.75
	O. Arg. S. 14925 .	36	16.8	19.1	20.3	31.0	32.2	33.4	34.7	35.9	46.6	47.9	50.2	41 33.46	0.26	53.63	15 42 27.35	18.39
	O. Arg. S. 15023 .	37	46.6	48.8	50.3	0.7	1.8	3.2	4.5	5.6	16.3	17.6	19.9	47 3.21	+ 0.26	53.63	15 47 57.10	18.41
	π Scorpii	38	45.5	46.6	47.9	49.3	50.4	. .	21.5	24.2	25.5	26.9	28.4	50 6.62	− 18.38	53.63	15 50 41.87	18.46
	O. Arg. S. 15194 .	39	21.0	23.0	24.6	34.8	35.9	37.3	38.6	39.7	50.4	51.7	53.9	56 37.35	+ 0.25	53.63	15 57 31.23	18.29
	O. Arg. S. 15271 .	40	26.5	28.7	30.0	41.1	42.3	43.6	45.0	46.2	57.4	58.8	1.2	59 43.71	0.28	53.63	16 0 37.62	19.14
	O. Arg. S. 15359 .	41	2.0	4.2	5.6	16.6	17.8	19.2	20.6	21.7	32.9	34.2	36.5	3 19.21	0.28	53.64	16 4 13.13	19.17
	O. Arg. S. 15389 .	42	12.9	15.2	16.6	27.7	28.8	30.2	31.5	32.7	43.8	45.1	47.4	4 30.17	0.28	53.64	16 5 24.09	19.19
	δ Ophiuchi . . .	43	8.0	10.0	11.2	20.8	21.7	23.0	24.1	25.2	34.8	36.0	38.2	6 23.00	0.17	53.64	16 7 16.81	16.02
	* — 30° 10′ . .	44	50.3	51.9	53.3	54.5	57.2	. .	6.9	9.6	10.9	12.4	14.0	9 32.10	0.01	53.64	16 10 25.75	19.29
	* — 30° 5′ . . .	45	24.6	26.7	28.2	39.3	40.5	41.9	43.2	44.5	55.7	57.2	59.3	9 41.92	0.28	53.64	16 10 35.84	19.28
	O. Arg. S. 15566 .	46	38.2	40.3	41.6	52.0	53.1	54.4	55.7	56.7	7.3	8.6	10.8	13 54.43	0.25	53.64	16 14 48.32	18.30
	O. Arg. S. 15590 .	47	3.0	5.0	6.3	16.6	17.6	18.8	20.1	21.3	31.5	32.7	34.8	15 18.88	0.23	53.64	16 16 12.75	17.92
	O. Arg. S. 15643 .	48	52.7	55.0	56.3	7.3	8.3	9.7	11.0	12.2	23.4	24.6	27.0	18 9.77	0.28	53.64	16 19 3.69	19.20
	O. Arg. S. 15694 .	49	2.0	4.3	5.7	16.6	17.8	19.1	20.5	21.6	33.0	34.3	36.6	22 19.23	0.28	53.64	16 23 13.15	19.33
	B. A. C. 5538 . .	50	18.1	20.6	22.0	33.7	34.8	36.3	37.8	39.0	50.9	52.2	54.8	26 36.38	+ 0.32	+53.64	16 27 30.34	− 20.24

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 26, 1.9	+ 52.58	+ 0.037	+ 0.160
27, 1.7	53.57	0.010	. .
28, 12.4	+ 53.57	+ 0.018	. .

10–11. Through clouds.
20. Unsteady.
23. Faint.

June 26, n. = − 0.16 s.
27, 0.30.
28, − 0.17.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. June 28 Y.	O. Arg. S. 15836 .	1	. .	. .	. .	29.5	30.6	32.0	33.3	34.4	44.9	46.2	48.5	32 37.42	— 5.18	+53.64	16 33 25.88	— 18.63
	κ Ophiuchi . . .	2	8.5	10.4	11.6	21.2	22.2	23.5	24.8	25.7	35.6	36.7	38.9	50 23.55	+ 0.13	53.65	16 51 17.33	14.70
	B. A. C. 5718 . .	3	13.0	14.2	15.6	16.9	18.3	. .	51.4	54.1	55.7	57.0	58.6	52 35.48	— 19.51	53.65	16 53 9.62	19.91
	O. Arg. S. 16262 .	4	27.6	30.0	31.5	41.8	42.9	44.5	45.7	46.9	57.5	58.9	1.1	54 44.40	+ 0.27	53.65	16 55 38.32	19.17
	ε Ursæ Minoris . .	5	. .	. .	. .	53.9	0.3	10.0	18.5	27.2	. .	. .	. .	59 9.98	0.29	53.65	. . . .	21.98
	O. Arg. S. 16420 .	6	3.7	6.0	7.4	18.0	19.1	20.4	21.8	22.9	33.8	35.2	37.2	2 20.50	+ 0.26	53.65	17 3 14.41	19.14
	O. A. S. 16563, (1st *)	7	42.8	44.2	45.6	46.8	49.5	. .	56.5	59.1	0.6	2.0	3.4	8 23.05	— 0.01	53.66	17 9 16.70	19.16
	O. A. S. 16563, (2d *)	8	6.4	8.5	9.8	20.5	21.5	22.8	24.2	25.5	36.1	37.5	39.8	8 22.96	+ 0.26	53.66	17 9 16.88	19.16
	O. Arg. S. 16990 .	9	2.4	4.7	6.1	17.0	18.2	19.4	20.7	21.9	33.0	34.3	36.5	28 19.47	0.27	53.66	17 29 13.40	19.52
	O. Arg. S. 17090 .	10	59.1	1.3	2.6	13.0	14.0	15.4	16.6	17.7	28.3	29.7	31.9	33 15.42	0.25	53.66	17 34 9.33	18.71
	O. Arg. S. 17209 .	11	18.7	20.7	22.1	32.3	33.3	34.6	35.9	37.0	47.4	48.5	50.8	38 34.66	0.24	53.66	17 39 28.56	18.43
	B. A. C. 6023 . .	12	32.5	34.6	36.0	46.3	47.4	48.7	50.0	51.1	1.7	2.9	5.2	40 48.76	+ 0.25	53.66	17 41 42.67	18.91
	* — 28° 35′ . .	13	. .	. .	. .	23.7	24.8	26.2	27.5	28.6	39.7	41.0	43.4	42 31.86	— 5.36	53.66	17 43 20.16	19.58
	O. Arg. S. 17339 .	14	27.1	29.3	30.6	40.8	41.8	43.1	44.4	45.6	55.8	56.9	59.2	45 43.15	+ 0.24	53.67	17 46 37.06	18.47
	O. Arg. S. 17376 .	15	7.0	9.1	10.7	20.8	22.0	23.3	24.6	25.7	36.3	37.5	39.7	47 23.34	+ 0.25	53.67	17 48 17.26	18.80
	B. A. C. 6072 . .	16	. .	. .	. .	9.4	10.5	11.8	13.4	14.5	25.4	26.6	28.9	49 17.56	— 5.37	53.67	17 50 5.86	19.62
	O. A. S. 17506, (1st *)	17	39.0	40.5	41.9	43.2	45.6	. .	51.0	53.5	54.9	56.2	57.7	53 18.35	— 0.01	53.67	17 54 12.01	18.76
	O. A. S. 17506, (2d *)	18	2.4	4.5	5.9	16.0	17.1	18.5	19.7	21.0	31.5	32.7	34.9	53 18.56	+ 0.25	53.67	17 54 12.48	18.76
	O. Arg. S. 17681 .	19	14.0	16.0	17.4	27.7	28.6	29.9	31.0	32.2	42.6	43.9	46.0	59 29.94	0.24	53.67	18 0 23.85	18.52
	μ Sagittarii . . .	20	32.0	34.2	35.4	45.6	46.7	48.0	49.3	50.5	0.8	2.0	4.4	4 48.08	+ 0.24	53.67	18 5 41.99	18.48
	δ Ursæ Minoris . .	†21	17.0	49.5	10.0	51.0	8.0	29.5	51.0	7.5	49.5	8.5	41.0	15 29.32	— 0.16	53.67	. . . .	68.41
	1 Aquilæ	22	43.1	45.0	46.3	55.9	56.9	58.1	59.4	0.4	10.1	11.3	13.3	26 58.16	+ 0.19	53.68	18 27 52.03	16.87
	O. Arg. S. 18493 .	†23	40.8	42.9	44.3	54.6	55.7	57.0	58.3	59.4	10.0	11.1	13.5	29 57.05	+ 0.25	53.68	18 30 50.98	18.76
	26 Sagittarii . . .	24	. .	29.8	31.2	41.7	42.8	44.2	45.3	46.5	57.0	58.3	0.5	32 45.73	— 1.38	53.68	18 33 38.03	18.84
	O. Arg. S. 18604 .	25	1.9	4.2	5.4	15.7	16.6	17.9	19.2	20.3	30.5	31.7	33.9	35 17.94	+ 0.23	53.68	18 36 11.85	18.23
	B. A. C. 6382 . .	26	56.1	58.5	59.8	10.6	11.6	12.9	14.2	15.4	26.5	27.8	30.0	38 13.04	0.27	53.68	18 39 6.99	19.48
	Lalande 34916 . .	27	29.5	31.7	33.0	43.1	44.2	45.4	46.7	47.7	58.0	59.3	1.4	40 45.45	0.23	53.68	18 41 39.36	18.19
	B. A. C. 6414 . .	28	50.6	53.0	54.4	5.6	6.7	8.0	9.3	10.6	22.0	23.3	25.6	43 8.10	0.29	53.68	18 44 2.07	19.85
	ν¹ Sagittarii . . .	29	51.4	53.5	54.7	5.2	6.3	7.6	8.8	9.8	20.5	21.7	24.0	45 7.59	0.25	53.68	18 46 1.52	18.66
	ν² Sagittarii . . .	30	47.7	50.0	51.2	1.6	2.7	4.0	5.2	6.3	16.8	18.0	20.4	46 3.99	0.25	53.68	18 46 57.92	18.65
	* — 19° 21′ . .	31	30.4	32.4	33.7	43.6	44.7	46.0	47.3	48.5	58.6	59.8	2.0	48 46.09	0.23	53.69	18 49 40.01	18.17
	Lalande 35497 . .	32	58.4	0.5	1.7	11.9	12.9	14.1	15.3	16.5	26.8	28.1	30.1	54 14.21	0.23	53.69	18 55 8.13	18.16
	* — 23° 28′ . .	33	12.6	14.8	16.2	26.5	27.7	29.0	30.2	31.3	41.9	43.2	45.4	57 28.98	0.25	53.69	18 58 22.92	18.68
	O. Arg. S. 19120 .	34	25.2	27.4	28.7	39.0	40.1	41.3	42.6	43.7	54.4	55.6	57.8	59 41.45	0.25	53.69	19 0 35.39	18.66
	O. Arg. S. 19143 .	35	15.3	17.5	19.0	29.4	30.3	31.6	32.8	34.1	44.6	45.9	48.0	0 31.68	0.25	53.69	19 1 25.62	18.66
	Victoria	†36	33.2	35.2	36.4	46.0	47.0	48.2	49.5	50.5	0.3	1.5	3.6	9 48.31	0.19	53.69	19 10 42.19	. .
	δ Aquilæ	†37	33.0	35.2	36.4	45.9	46.8	48.1	49.2	50.1	0.0	1.0	3.3	17 48.09	0.15	53.69	19 18 41.93	15.71
	β Arietis	38	0.1	2.4	3.8	13.7	14.8	16.1	17.5	18.5	28.8	30.0	32.3	46 16.18	0.11	53.78	1 47 10.07	15.34
	α Arietis	39	22.8	24.9	26.3	36.6	37.6	38.9	40.2	41.3	51.8	53.0	55.4	58 38.98	0.10	53.78	1 59 32.86	15.58
	Moon II . . .	40	31.5	33.6	35.0	45.1	46.0	47.2	48.6	49.8	0.1	1.5	3.5	51 47.45	0.12	53.78	2 52 41.35	. .
	α Ceti	41	3.0	5.0	6.2	15.7	16.7	18.0	19.2	20.2	29.8	31.0	33.1	54 17.99	0.15	53.78	2 55 11.92	14.06
R.	α Tauri	42	59.1	1.1	2.4	12.4	13.3	14.5	15.8	16.9	26.9	28.2	30.2	27 14.62	0.13	53.87	4 28 8.62	15.15
	Mercury II . . .	43	50.1	52.2	53.5	3.8	4.9	6.2	7.5	8.6	19.1	20.4	22.5	14 6.25	0.12	53.87	5 15 0.24	0.22
	β Tauri	44	32.1	34.4	36.0	46.6	47.7	49.0	50.5	51.8	2.7	4.0	6.4	16 49.20	0.12	53.87	5 17 43.19	16.56
29	Sun I	†45	1.6	3.7	5.3	15.4	16.5	17.8	19.2	20.4	31.0	32.1	34.5	33 17.95	0.12	53.88	6 34 11.95	. .
	Sun II	†46	19.3	21.6	22.8	33.3	34.3	35.6	36.9	38.1	48.5	49.7	52.0	35 35.65	0.12	53.88	6 36 29.65	. .
	B. A. C. 5868 . .	47	41.2	43.3	44.8	55.2	56.3	57.7	58.8	0.0	10.5	11.8	14.1	15 57.61	0.23	53.97	17 16 51.81	18.85
	b Ophiuchi . . .	48	57.6	59.7	1.1	11.5	12.5	13.9	15.2	16.4	27.0	28.2	30.4	17 13.95	0.23	53.97	17 18 8.15	18.84
	B. A. C. 5946 . .	49	31.3	33.5	34.9	45.4	46.7	48.0	49.5	50.6	1.6	2.9	5.3	28 48.15	0.25	53.97	17 29 42.37	19.46
	O. Arg. S. 17130 .	50	53.9	56.0	57.5	7.7	8.9	10.1	11.4	12.4	23.1	24.4	26.7	35 10.19	+ 0.23	+53.97	17 36 4.39	— 18.83

21. Unsteady.
23. Unsteady.
36. Several smaller stars in the field.
37. Unsteady.
45–46. Badly defined.

June 29, n. = — 0.12. (s.)

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 28, 2.2	+ 53.78	+ 0.013	+ 0.160
29, 12.6	+ 53.93	+ 0.008	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. June 29	μ Herculis	1	0. 5	2. 8	4. 1	14. 8	16. 0	17. 3	18. 6	19. 9	30. 8	32. 0	34. 3	40 17. 37	+ 0. 12	+53. 97	17 41 11. 46	— 12. 63
R.	O. Arg. S. 17339	2	27. 0	29. 0	30. 4	40. 6	41. 6	42. 8	44. 0	45. 1	55. 8	56. 9	59. 0	45 42. 93	0. 22	53. 97	17 46 37. 12	18. 47
	B. A. C. 6072	3	54. 5	56. 8	58. 1	9. 1	10. 0	11. 3	12. 7	14. 0	25. 0	26. 6	28. 8	49 11. 54	0. 25	53. 97	17 50 5. 76	19. 62
	μ Sagittarii	4	31. 8	33. 7	35. 3	45. 4	46. 5	47. 8	49. 1	50. 2	0. 6	1. 8	4. 0	4 47. 84	0. 22	53. 97	18 5 42. 03	— 18. 49
	δ Ursæ Minoris	†5	- -	- -	- -	50. 0	7. 0	26. 5	45. 0	3. 0	- -	- -	- -	15 26. 30	1. 48	53. 98	. . . .	+ 68. 50
Y.	Moon II	†6	30. 8	32. 3	33. 7	34. 8	37. 5	- -	42. 4	45. 1	46. 4	47. 8	49. 2	48 9. 87	0. 01	54. 46	3 44 4. 34:	- -
		†7	53. 6	55. 6	57. 2	7. 4	8. 4	9. 6	10. 9	12. 1	22. 7	23. 8	26. 0					
30	α Tauri	8	57. 7	59. 7	0. 9	10. 9	12. 0	13. 2	14. 4	15. 5	25. 5	26. 7	28. 8	27 13. 21	0. 13	55. 23	. . . .	— 15. 19
R.	β Orionis	9	50. 5	52. 5	53. 8	3. 5	4. 5	5. 6	6. 8	7. 8	17. 6	18. 7	20. 8	7 5. 65	0. 17	55. 29	5 7 1. 11	12. 41
	β Tauri	10	30. 8	33. 0	34. 4	45. 2	46. 3	47. 8	48. 9	50. 2	1. 2	2. 5	4. 8	16 47. 74	0. 12	55. 30	5 17 43. 16	16. 60
	Mercury II	11	20. 3	22. 4	23. 9	34. 0	35. 1	36. 4	37. 8	38. 9	49. 4	50. 8	52. 8	28 36. 53	+ 0. 12	55. 31	5 29 31. 96	0. 22
July 1	Sun I	†12	- -	- -	- -	30. 7	31. 8	33. 2	34. 5	35. 7	46. 0	47. 4	49. 6	41 38. 61	— 5. 28	55. 38	6 42 28. 71	- -
	Sun II	†13	- -	- -	- -	48. 1	49. 2	50. 6	51. 9	53. 2	3. 6	5. 0	7. 1	43 56. 09	— 5. 28	55. 38	6 44 46. 19	- -
	α Hydræ	14	44. 8	46. 7	48. 1	57. 5	58. 6	59. 8	0. 9	2. 0	11. 8	13. 0	15. 0	19 59. 84	+ 0. 17	55. 51	. . . .	13. 05
Y.	η Tauri	15	13. 3	15. 4	16. 8	27. 2	28. 3	29. 6	30. 9	32. 1	42. 5	43. 8	46. 0	38 29. 63	0. 12	56. 31	. . . .	15. 97
	α Tauri	16	56. 7	58. 7	0. 0	9. 9	10. 8	12. 2	13. 4	14. 5	24. 4	25. 7	27. 7	27 12. 18	0. 13	56. 34	. . . .	15. 22
2	Sun I	17	24. 0	26. 2	27. 5	37. 7	38. 8	40. 0	41. 3	42. 5	53. 1	54. 5	56. 6	45 40. 22	0. 12	56. 42	6 46 36. 76	- -
	Sun II	18	41. 1	43. 3	44. 7	55. 0	56. 0	57. 4	58. 6	59. 7	10. 3	11. 5	13. 9	47 57. 41	0. 12	56. 42	6 48 53. 95	- -
	β Scorpii	19	23. 0	25. 1	26. 4	36. 5	37. 5	38. 9	40. 1	41. 2	51. 4	52. 7	54. 7	56 38. 86	0. 26	56. 76	15 57 35. 88	17. 73
	B. A. C. 5330	20	1. 1	2. 6	3. 8	5. 1	7. 5	- -	11. 4	13. 8	15. 0	16. 4	17. 8	56 39. 45	0. 01	56. 76	15 57 36. 22	17. 74
	B. A. C. 5364	21	47. 9	50. 0	51. 5	2. 2	3. 3	4. 6	5. 9	7. 1	17. 9	19. 2	21. 3	1 4. 63	0. 31	56. 76	16 2 1. 70	18. 67
	O. Arg. S. 15359	22	58. 9	1. 2	2. 7	13. 5	14. 8	16. 1	17. 4	18. 7	29. 8	31. 2	33. 5	3 16. 16	0. 33	56. 76	16 4 13. 25	19. 15
	O. Arg. S. 15388	23	9. 6	11. 9	13. 4	24. 5	25. 6	27. 0	28. 3	29. 7	40. 5	42. 0	44. 3	4 26. 98	0. 33	56. 76	16 5 24. 07	19. 18
	O. Arg. S. 15452	24	12. 4	14. 7	16. 4	27. 1	28. 3	29. 7	30. 0	32. 1	43. 3	44. 6	47. 0	7 29. 60	+ 0. 33	56. 76	16 8 26. 69	— 19. 15
	(* 120) W. +79° 36′	25	- -	- -	- -	43. 2	49. 2	54. 9	2. 0	7. 7	- -	- -	- -	11 55. 40	— 0. 19	56. 77	16 12 51. 98	+ 11. 50
	(* 120) W. +79° 36′	26	- -	- -	- -	- -	12. 1	18. 6	25. 8	- -	- -	- -	- -	12 18. 83	— 0. 10	56. 77	16 13 15. 50	+ 11. 52
	ζ Ophiuchi	27	31. 8	33. 9	35. 1	44. 8	45. 8	47. 1	48. 3	49. 3	59. 0	0. 2	2. 3	28 47. 05	+ 0. 21	56. 78	16 29 44. 04	— 16. 89
	O. Arg. S. 15834	28	39. 9	41. 5	42. 9	44. 1	46. 6	- -	52. 3	55. 0	56. 3	57. 9	59. 1	32 19. 56	0. 03	56. 78	16 33 16. 37	18. 61
	O. Arg. S. 15836	29	12. 4	14. 5	15. 9	26. 4	27. 5	28. 8	30. 0	31. 3	41. 8	43. 1	45. 2	32 28. 81	+ 0. 29	56. 78	16 33 25. 88	18. 63
	O. Arg. S. 15881	30	- -	- -	- -	55. 1	56. 6	58. 7	14. 9	17. 5	18. 7	20. 2	21. 6	35 10. 41	— 27. 49	56. 78	16 35 39. 70	18. 14
	O. Arg. S. 15950	31	13. 6	15. 8	17. 2	28. 2	29. 3	30. 5	32. 0	33. 2	44. 3	45. 6	47. 7	38 30. 67	+ 0. 33	56. 78	16 39 27. 78	19. 32
	Juno	32	- -	- -	- -	41. 1	42. 2	44. 2	59. 5	1. 8	3. 0	4. 4	5. 7	40 55. 24	— 25. 90	56. 79	16 41 26. 13	- -
	* — 4° 5′	33	- -	- -	- -	- -	- -	- -	22. 0	24. 5	25. 7	27. 0	28. 4	41 25. 52	33. 55	56. 79	16 41 48. 76	16. 25
	Weisse 845	34	- -	- -	- -	53. 0	54. 3	56. 4	11. 7	14. 2	15. 5	16. 8	18. 1	44 7. 50	26. 11	56. 79	16 44 38. 18	16. 76
	B. A. C. 5678	35	- -	- -	- -	- -	- -	- -	7. 8	10. 8	12. 2	13. 8	15. 3	46 11. 98	38. 97	56. 79	16 46 29. 80	- -
	B. A. C. 5684	36	- -	- -	- -	29. 4	30. 8	33. 3	51. 0	53. 7	55. 2	56. 6	58. 2	46 46. 03	30. 09	56. 79	16 47 12. 73	19. 78
	* — 31° 17′	37	- -	- -	- -	- -	- -	- -	12. 3	15. 0	16. 6	18. 1	19. 5	47 16. 30	— 39. 03	56. 79	16 47 34. 06	19. 79
	Weisse 958	38	0. 0	2. 0	3. 2	12. 8	13. 7	14. 9	16. 0	17. 2	26. 8	28. 0	30. 0	50 14. 96	+ 0. 18	56. 79	16 51 11. 93	16. 28
	30 Ophiuchi	39	23. 9	25. 4	26. 7	27. 8	30. 1	- -	30. 2	32. 6	33. 9	35. 3	36. 5	53 0. 24	— 0. 06	56. 79	16 53 56. 97	16. 26
	Weisse 1011	40	38. 6	39. 9	41. 0	42. 3	44. 6	- -	44. 8	47. 2	48. 5	49. 7	51 0	53 14. 76	0. 06	56. 79	16 54 11. 49	16. 28
	Dorpat 2119, (1st *)	†41	17. 8	19. 3	20. 5	21. 8	24. 2	- -	26. 0	28. 5	29. 7	31. 0	32. 3	57 55. 11	— 0. 01	56. 80	16 58 51. 90	17. 42
	Dorpat 2119, (2d *)	†42	39. 5	41. 6	42. 8	52. 6	53. 7	54. 8	56. 0	57. 1	7. 0	8. 2	10. 3	57 54. 87	+ 0. 23	56. 80	16 58 51. 90	17. 42
	O. Arg. S. 16420	43	0. 6	2. 8	4. 2	14. 8	16. 0	17. 4	18. 5	19. 7	30. 5	31. 8	34. 2	2 17. 32	0. 31	56. 80	17 3 14. 43	19. 15
	A Ophiuchi, (1st *)	44	49. 7	51. 9	53. 3	3. 8	4. 9	6. 3	7. 7	8. 8	19. 6	21. 0	23. 2	6 6. 38	0. 31	56. 80	17 7 3. 49	19. 15
	A Ophiuchi, (2d *)	45	26. 5	28. 0	29. 5	30. 7	33. 3	- -	40. 2	42. 8	44. 3	45. 8	47. 3	6 6. 84	0. 05	56. 80	17 7 3. 69	19. 15
	O. Arg. S. 16563	†46	3. 0	5. 3	6. 6	17. 4	18. 4	19. 7	21. 1	22. 3	33. 0	34. 3	36. 5	8 19. 78	0. 31	56. 80	17 9 16. 89	19. 17
	* — 22° 53′	47	50. 2	52. 5	53. 8	40. 1	5. 2	6. 4	7. 8	8. 8	19. 4	20. 6	22. 8	14 6. 51	0. 29	56. 81	17 15 3. 61	18. 68
	B. A. C. 5892	48	43. 8	46. 0	47. 5	58. 6	59. 7	1. 2	2. 6	3. 7	15. 1	16. 3	18. 8	19 1. 21	0. 34	56. 81	17 19 58. 36	19. 98
	O. Arg. S. 16990	49	59. 2	1. 4	2. 8	13. 6	14. 8	16. 1	17. 4	18. 6	29. 6	30. 9	33. 4	28 16. 16	0. 32	56. 81	17 29 13. 29	19. 65
	O. Arg. S. 17094	50	55. 8	58. 1	59. 4	9. 8	10. 9	12. 2	13. 5	14. 6	25. 2	26. 4	28. 6	33 12. 23	+ 0. 29	+56. 82	17 34 9. 34	— 18. 79

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
June 30, 6. 0	+ 55. 34	+ 0. 052	+ 0. 160
July 2, 14. 9	+ 56. 72	+ 0. 037	+ 0. 165

5. Unsteady.
6–7. Faint; after this cloudy.
12–13. Through clouds.
41–42. Very close double.
46. Observed larger and following, 1st star 10. 0 mag.

	s.
June 30 . . . . . n. =	— 0. 12.
July 1–2, 3h. to 7h.	0. 16.
2, 15h. to 20h.	— 0. 25.

	r.	
July 2, 20h. 0m.	Image east 0. 25.	Clamp east.
	Image west 0. 29.	Clamp west.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 2	O. Arg. S. 17130 .	1	50.9	53.2	54.5	4.9	5.9	7.1	8.5	9.6	20.3	21.5	23.6	35 7.27	+ 0.29	+56.82	17 36 4.38	− 18.81
Y.	μ Herculis . . .	2	57.8	59.9	1.3	12.0	13.1	14.6	15.9	17.1	27.9	29.4	31.7	40 14.61	0.05	56.82	17 41 11.48	12.64
	Weisse 905 . . .	3	27.7	29.7	31.0	40.5	41.5	42.8	43.9	45.0	54.7	56.0	58.0	44 42.80	0.20	56.83	17 45 39.83	16.85
	Dorpat 2245, (1st *)	4	55.1	56.7	57.8	59.1	1.5	. .	4.8	7.4	8.7	9.9	11.4	49 33.24	0.16	56.83	17 50 29.91	13.91
	Dorpat 2245, (2d *)	5	17.4	19.5	20.7	30.8	31.8	33.1	34.3	35.5	45.5	46.8	49.0	49 33.13	0.09	56.83	17 50 30.05	13.91
	* + 0° 3′ . . .	6	25.4	27.4	28.6	38.2	39.1	40.4	41.5	42.6	52.3	53.4	55.6	51 40.41	0.16	56.83	17 52 37.40	15.95
	70 Ophiuchi, (1st *) .	7	26.5	28.5	29.8	39.3	40.3	41.5	42.6	43.7	53.5	54.6	56.6	57 41.54	0.15	56.83	17 58 38.52	15.69
	70 Ophiuchi, (2d *) .	8	. .	. .	. .	. .	. .	. .	12.2	14.5	15.8	17.1	18.4	58 15.60	33.54	56.83	17 58 38.89	15.69
	Dorpat 2281 . .	9	39.9	41.8	43.2	52.6	53.6	54.8	56.0	57.0	6.7	7.9	9.8	1 54.85	0.15	56.84	18 2 51.84	15.53
	μ Sagittarii . . .	10	28.8	30.9	32.3	42.4	43.5	44.8	46.1	47.2	57.6	58.7	1.0	4 44.85	0.27	56.84	18 5 41.96	18.51
	δ Ursæ Majoris . .	11	13.0	47.0	7.5	47.5	4.0	25.5	45.5	2.5	45.5	7.0	40.0	15 25.91	1.43	56.85	. . . .	. .
	1 Aquilæ	12	40.0	42.0	43.2	52.8	53.8	55.0	56.2	57.4	7.1	8.3	10.3	26 55.10	0.20	56.85	18 27 52.15	16.91
	O. Arg. S. 18505 .	13	15.0	17.3	18.7	. .	. .	. .	. .	. .	44.7	45.9	48.3	30 31.65	0.26	56.85	18 31 28.76	19.12
	O. A. S. 18506, (1st *)	14	55.5	57.0	58.4	59.7	2.3	. .	8.7	11.2	12.6	14.0	15.4	30 35.48	0.04	56.85	18 31 32.37	19.12
	O. A. S. 18506, (2d *)	15	. .	. .	. .	33.1	34.1	35.4	36.6	37.8	. .	. .	. .	30 35.40	0.35	56.85	18 31 32.60	19.12
	51 Cephei, S. P. . .	16	. .	. .	. .	21.0	2.2	35.5	10.0	49.7	. .	. .	. .	34 35.68	+ 0.60	56.86	6 35 33.14	115.29
	* − 6° 9′ . . .	17	. .	. .	. .	. .	. .	. .	58.2	0.6	2.0	3.2	4.5	41 1.70	− 33.65	56.86	18 41 24.91	16.66
	Dorpat 2391 . .	18	14.0	16.0	17.4	26.9	27.8	29.0	30.3	31.3	41.0	42.2	44.3	40 29.11	+ 0.19	56.86	18 41 26.16	16.66
	B. A. C. 6414 . .	19	. .	. .	. .	18.6	19.9	22.4	40.0	42.7	44.3	45.8	47.3	43 35.12	− 29.98	56.86	18 44 2.00	19.90
	Weisse 1219 . .	20	29.2	31.2	32.4	42.1	43.2	44.4	45.4	46.5	56.4	57.3	59.4	47 44.32	+ 0.21	56.86	18 48 41.39	17.04
	Weisse 1299 . .	21	32.6	34.6	36.0	45.5	46.5	47.8	48.9	50.0	59.8	1.0	3.0	50 47.79	+ 0.21	56.87	18 51 44.87	16.99
	Dorpat 2434, (1st *)	22	14.7	16.2	17.4	18.7	20.9	. .	21.1	23.5	24.6	26.0	27.4	54 51.05	− 0.07	56.87	18 55 47.85	16.08
	Dorpat 2434, (2d *)	23	37.1	39.0	40.2	. .	. .	. .	. .	. .	3.8	4.9	6.8	54 51.97	+ 0.13	56.87	18 55 48.97	16.08
	* − 8° 51′ . . .	24	42.0	44.0	45.3	54.9	55.9	57.0	58.2	59.3	9.1	10.3	12.3	58 57.12	+ 0.21	56.87	18 59 54.20	16.94
	Lalande 35791 . .	25	. .	. .	. .	58.5	59.5	0.7	2.0	3.0	12.7	13.8	15.9	0 5.76	− 4.79	56.87	19 0 57.84	16.14
	* − 8° 33′ . . .	26	19.4	21.1	22.5	32.1	33.2	34.3	35.5	36.6	46.4	47.6	49.4	5 34.37	+ 0.20	56.88	19 6 31.45	16.90
	Victoria	27	9.2	11.2	12.4	22.1	23.0	24.3	25.5	26.6	36.3	37.5	39.5	6 24.33	0.20	56.88	19 7 21.41	. .
	Dorpat 2497, (1st *)	28	. .	. .	. .	23.7	24.7	26.0	27.3	28.2	. .	. .	. .	12 25.98	0.19	56.88	19 13 23.05	15.46
	Dorpat 2497, (2d *)	29	10.9	12.9	14.3	. .	. .	. .	. .	. .	38.0	39.3	41.3	12 26.12	0.10	56.88	19 13 23.10	15.46
	δ Aquilæ	30	30.0	32.1	33.4	42.8	43.8	45.0	46.2	47.4	56.9	58.0	0.2	17 45.07	0.15	56.88	19 18 42.10	15.76
	κ Aquilæ	31	26.0	28.0	29.3	38.8	39.8	41.0	42.2	43.3	53.0	54.2	56.2	28 41.07	0.20	56.89	19 29 38.16	16.71
	Eunomia . . .	32	58.6	0.8	2.1	12.5	13.5	14.7	16.0	17.2	27.8	28.9	31.4	36 14.86	+ 0.29	+56.89	19 37 12.04	18.51
3	α Tauri	33	55.0	57.0	58.4	9.2	10.5	11.8	42.0	44.5	45.8	47.2	48.6	28 22.73	− 12.01	− 1.95	4 28 8.77	15.26
	β Orionis	34	47.9	49.7	50.9	0.4	1.5	2.8	4.0	5.0	14.9	15.9	18.0	8 2.82	+ 0.18	1.93	5 8 1.07	12.46
	α Orionis	35	36.4	38.5	39.6	49.3	50.2	51.4	52.6	53.8	3.5	4.7	6.7	47 51.52	0.15	1.91	5 47 49.76	14.16
	Mercury II . . .	†36	1.1	3.0	4.6	15.0	16.2	17.4	18.7	19.9	30.3	31.7	33.7	53 17.42	0.14	1.91	5 53 15.65	0.21
4	Sun I	†37	37.3	39.4	40.8	51.1	52.2	53.5	54.9	56.2	6.4	7.8	10.0	54 53.60	0.14	1.88	6 54 51.86	. .
	Sun II	38	54.4	56.5	57.9	8.3	9.3	10.6	11.8	13.0	23.6	24.8	27.0	57 10.65	+ 0.14	1.88	6 57 8.91	. .
	O. Arg. S. 15712 .	39	47.5	48.8	50.0	51.4	53.9	. .	58.1	0.7	2.0	3.5	4.7	24 26.06	− 0.01	1.61	16 24 24.44	18.06
	O. Arg. S. 15713 .	40	14.2	16.4	17.8	27.9	28.9	30.3	31.5	32.7	42.9	44.3	46.4	24 30.30	+ 0.25	1.61	16 24 28.94	18.07
	ζ Ophiuchi . . .	41	30.1	32.2	33.5	43.1	44.1	45.2	46.6	47.7	57.4	58.6	0.6	29 45.38	+ 0.20	1.61	16 29 43.97	16.89
	Juno	†42	. .	. .	. .	25.7	26.7	28.7	. .	46.5	47.6	48.8	. .	40 37.33	− 23.47	1.60	16 40 12.26	. .
	* − 4° 55′ . . .	43	2.4	4.8	6.1	16.5	17.6	19.0	20.2	21.3	31.9	33.3	35.4	55 18.95	+ 0.18	1.60	16 55 17.53	16.39
	B. A. C. 5768 . .	44	54.7	57.2	58.5	9.3	10.5	12.1	13.4	14.6	25.8	27.0	29.5	0 12.05	0.30	1.60	17 0 10.75	19.70
	Dorpat 2149 . .	†45	30.7	32.9	33.9	43.6	44.6	45.8	46.8	47.9	57.6	58.8	0.8	12 45.76	0.18	1.59	17 12 44.35	16.59
	B. A. C. 5892 . .	46	42.0	44.3	45.7	56.9	58.0	59.6	0.9	2.2	13.2	14.7	17.0	19 59.50	+ 0.31	1.59	17 19 58.22	19.98
	O. Arg. S. 16844 .	47	. .	. .	. .	. .	. .	. .	19.7	22.2	23.5	24.8	26.1	22 23.26	− 35.43	1.59	17 21 46.24	18.22
	α Ophiuchi . . .	48	26.7	28.8	30.0	39.9	40.9	42.2	43.3	44.5	54.3	55.6	57.6	28 42.16	+ 0.13	1.58	17 28 40.71	14.55
	O. Arg. S. 17090 .	49	54.5	56.6	58.0	8.2	9.3	10.7	12.0	13.2	23.6	24.8	27.0	34 10.72	0.26	1.58	17 34 9.40	18.80
	Dorpat 2204, (1st *)	50	30.2	32.1	33.5	43.3	44.3	45.5	46.8	47.8	57.8	58.9	1.0	38 45.56	+ 0.21	− 1.58	17 38 44.19	− 17.48

36. Unsteady.
37. Faint.
42. Very faint.
45. Preceding.

July 3-4, 4h. to 7h. n. = − 0.09 s.
4, 16h. to 20h. − 0.19.
July 3. Before α Tauri set clock forward one minute.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 4, 13.3	− 1.70	+ 0.028	+ 0.165

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 4	Dorpat 2204, (2d *)	1	9.0	10.4	11.7	12.9	15.3	. .	17.0	19.4	20.8	22.0	23.3	38 46.18	— 0.03	— 1.58	17 38 44.57	— 17.48
Y.	B. A. C. 6023	2	41.6	42.7	44.0	45.4	46.5	. .	17.0	19.7	21.1	22.4	23.9	42 2.43	— 18.15	1.58	17 41 42 70	18.94
	Dorpat 2234	3	26.0	28.1	29.3	38.9	40.0	41.1	42.3	43.3	53.1	54.3	56.3	45 41.15	+ 0.19	1.58	17 45 39.76	16.86
	Dorpat 2245, (1st *)	4	53.3	54.9	56.3	57.4	59.9	. .	3.2	5.6	7.0	8.4	9.6	50 31.56	— 0.14	1.57	17 50 29.85	13.92
	Dorpat 2245, (2d *)	5	15.7	17.8	19.0	29.1	30.1	31.4	32.6	33.7	44.0	45.1	47.4	50 31.45	+ 0.11	1.57	17 50 29.99	13.92
	O. A. S. 17506, (1st *)	6	57.0	59.2	0.6	10.9	12.0	13.4	14.6	15.7	26.2	27.4	29.5	54 13.32	+ 0.26	1.57	17 54 12.01	18.80
	O. A. S. 17506, (2d *)	7	34.5	36.1	37.5	38.7	41.2	. .	46.4	49.2	50.5	51.9	53.3	54 13.93	0.00	1.57	17 54 12.36	18.80
	70 Ophiuchi, (1st *)	8	37.6	38.7	39.8	40.9	42.0	. .	10.0	12.5	13.7	15.0	16.2	58 56.64	— 16.66	1.57	17 58 38.41	15.70
	70 Ophiuchi, (2d *)	9	25.3	27.1	28.3	. .	. .	. .	. .	. .	52.0	53.3	55.4	58 40.23	+ 0.12	1.57	17 58 38.78	15.70
	B. A. C. 6160	10	8.2	10.5	11.9	22.8	23.8	25.3	26.6	27.8	38.8	40.2	42.5	3 25.31	0.29	1.57	18 3 24.03	19.70
	μ Sagittarii	†11	27.0	29.2	30.6	40.8	41.8	43.0	44.3	45.4	56.0	57.2	59.2	5 43.14	+ 0.25	1.57	18 5 41.82	— 18.53
	δ Ursæ Minoris	†12	11.0	44.0	4.5	43.0	0.5	22.0	44.0	0.0	43.0	2.0	36.0	16 22.73	— 0.42	1.56	. . . .	+ 69.20
	1 Aquilæ	13	38.4	40.3	41.6	51.3	52.2	53.5	54.7	55.7	5.5	6.6	8.6	27 53.49	+ 0.19	1.55	18 27 52.13	— 16.92
	51 Cephei, S. P.	14	47.5	5.5	40.0	23.0	59.0	37.0	11.0	51.0	31.0	3.0	22.0	35 35.45	0.52	1.55	6 35 34.42	115.65
	O. Arg. S. 19007	15	54.6	56.7	58.0	8.0	9.2	10.4	11.7	12.8	23.4	24.4	26.7	56 10.54	0.25	1.54	18 56 9.25	18.44
	B. A. C. 6525	16	45.5	47.7	49.0	0.0	1.0	2.4	3.7	4.8	16.0	17.4	19.7	59 2.47	+ 0.29	1.54	18 59 1.22	19.54
	Lacaille 8017	17	. .	. .	. .	19.1	20.3	21.6	22.9	24.0	35.1	36.4	38.8	1 27.28	— 5.30	1.54	19 1 20.44	19.29
	Victoria	18	.	26.2	27.5	37.0	38.0	39.1	40.3	41.4	51.3	52.5	. .	5 39.26	+ 0.20	1.54	19 5 37.92	. .
	ω Aquilæ	19	15.7	17.7	19.1	28.6	29.7	30.9	32.2	33.1	43.0	44.3	46.3	11 30.96	0.13	1.54	19 11 29.55	14.86
	* — 23° 25′	20	11.1	13.2	14.8	25.0	26.1	27.4	28.7	29.7	40.4	41.6	43.9	16 27.45	0.26	1.53	19 16 26.18	18.66
	Weisse 692	21	9.8	. .	12.9	22.8	23.9	25.0	26.3	27.5	37.1	. .	40.5	28 25.09	0.20	1.53	19 28 23.76	17.10
	Eunomia	22	55.5	57.6	58.9	9.6	10.7	11.8	13.3	14.3	24.9	26.0	28.2	35 11.89	0.26	— 1.52	19 35 10.63	. .
	γ Aquilæ	23	37.4	39.5	40.7	50.5	51.5	52.7	53.8	54.9	4.8	5.9	7.9	39 52.69	0.13	+ 1.52	19 39 51.30	14.99
	α Tauri	24	54.2	56.4	57.6	7.3	8.4	9.7	10.9	12.0	22.0	23.3	25.4	28 9.75	0.15	. .	. . . .	15.28
	β Orionis	25	46.9	49.1	50.3	59.7	0.7	2.0	3.1	4.1	13.9	15.2	17.2	8 2.02	0.18	. .	. . . .	12.48
R.	α Orionis	26	35.6	37.7	39.0	48.5	49.4	50.6	51.9	52.9	2.7	3.9	6.0	47 50.75	0.15	— 1.16	5 47 49.74	14.15
	Mercury II	27	23.3	25.4	26.8	37.7	38.3	39.7	40.8	42.0	52.5	53.9	55.9	1 39.60	0.14	1.15	6 1 38.59	0.21
5	Sun I	†28	43.4	45.7	47.0	57.5	58.6	59.9	1.2	2.4	12.8	13.8	16.0	58 59.85	0.14	1.13	6 58 58.86	. .
	Sun II	†29	0.5	2.9	4.3	14.5	15.7	16.9	18.4	19.5	29.9	31.1	33.5	1 17.02	0.14	1.13	7 1 16.03	. .
	α Hydræ	†30	41.4	43.4	44.5	54.0	55.3	56.5	57.6	58.7	8.4	9.4	11.6	20 56.44	0.18	1.08	9 20 55.54	13.04
	δ Ursæ Minoris	31	. .	. .	. .	44.0	0.5	20.0	40.0	57.0	. .	. .	. .	16 20.30	1.40	0.86	. . . .	69.35
	B. A. C. 6310	32	17.9	20.4	21.8	33.0	34.0	35.4	36.8	38.1	49.3	50.8	53.3	25 35.53	0.27	0.86	18 25 34.94	20.01
	1 Aquilæ	33	37.8	39.9	41.0	50.6	51.6	52.8	53.9	55.1	4.8	5.9	8.1	27 52.86	0.19	0.85	18 27 52.20	16.93
	26 Sagittarii	34	22.4	24.7	26.0	36.4	37.4	38.6	39.9	40.2	51.7	53.0	54.4	33 38.61	0.24	0.85	18 33 38.00	18.92
	B. A. C. 6382	35	50.8	53.0	54.5	5.3	6.3	7.6	8.9	10.3	21.3	22.6	24.8	39 7.76	0.26	0.85	18 39 7.17	19.56
	Lalande 34916	36	24.3	25.3	27.6	37.6	38.7	40.0	41.2	42.4	52.5	53.7	56.0	41 39.94	0.22	0.85	18 41 39.31	18.27
	σ Sagittarii	37	38.2	40.3	41.6	52.3	53.5	54.7	56.0	57.2	8.0	9.4	11.5	46 54.79	0.25	0.85	18 46 54.19	19.24
	O. Arg. S. 18883	38	26.5	28.6	30.1	41.0	42.2	43.5	44.8	46.2	57.2	58.5	0.9	49 43.59	0.26	0.85	18 49 43.00	19.60
	O. Arg. S. 19007	39	54.0	56.0	57.5	7.7	8.8	10.1	11.4	12.5	22.6	24.0	26.2	56 10.07	0.23	0.84	18 56 9.46	18.45
	B. A. C. 6525	40	44.9	47.0	48.5	59.3	0.5	1.8	3.1	4.4	15.4	16.7	19.0	59 1.87	0.26	0.84	18 59 1.29	19.55
	Victoria	41	31.8	32.6	34.7	44.4	45.4	46.6	47.9	48.9	58.5	59.8	1.8	4 46.58	0.19	0.84	19 4 45.93	. .
	* — 23° 49′	42	52.4	54.6	55.8	6.3	7.3	8.7	10.0	11.2	21.6	23.0	25.3	11 8.75	0.24	0.84	19 11 8.15	18.76
	Dorpat 2497, (1st *)	43	. .	. .	. .	21.4	22.4	23.6	24.8	25.9	. .	. .	. .	13 23.62	0.20	0.84	19 13 22.98	15.47
	Dorpat 2497, (2d *)	44	8.5	10.5	12.0	. .	. .	. .	. .	. .	35.6	36.8	38.9	13 23.72	0.11	0.84	19 13 22.97	15.47
	δ Aquilæ	45	27.7	29.9	30.9	40.6	41.6	42.8	43.9	45.0	54.6	55.9	58.0	18 42.81	+ 0.16	0.84	19 18 42.13	15.80
Y.	Weisse 438	46	. .	. .	. .	. .	.	. .	20.3	22.6	23.8	25.1	26.5	19 23.66	— 33.54	0.83	19 18 49.29	15.71
6	Sun I	47	49.4	51.5	52.8	3.0	4.3	5.5	6.9	8.0	18.3	19.6	21.9	3 5.56	+ 0.14	0.13	7 3 5.57	. .
	Sun II	48	6.2	8.4	9.8	20.1	21.1	22.5	23.8	25.0	35.5	36.7	38.9	5 22.55	0.14	0.13	7 5 22.56	. .
	α Leonis	49	53.6	55.7	56.9	6.7	7.7	8.8	10.0	11.1	21.0	22.2	24.3	1 8.91	0.15	0.02	. . . .	14.25
	γ Leonis	50	13.6	15.8	17.1	27.2	28.3	29.6	30.9	32.0	42.1	43.4	45.9	12 29.63	+ 0.14	— 0.02	. . . .	— 14.77

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 5, 11.6	— 1.02	+ 0.024	+ 0.165

11. Stars unsteady.
12. Unsteady.
28–29. Unsteady and badly defined.
30. Faint.

July 4–5, 4h. to 10h. n. = — 0.09 s.
5, 18h. to 20h. — 0.13.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 6 Y.	B. A. C. 5476	1	2.2	4.5	5.9	16.8	18.0	19.4	20.7	22.0	33.0	34.4	36.8	17 19.43	+ 0.26	+ 0.22	16 17 19.91	— 19.25
	O. Arg. S. 15659	2	33.4	35.6	37.0	47.4	48.4	49.8	51.1	52.3	2.8	4.1	6.4	20 49.85	0.24	0.22	16 20 50.31	18.52
	O. Arg. S. 15694	3	55.4	57.7	59.0	10.1	11.1	12.5	14.0	15.1	26.2	27.5	29.9	23 12.59	0.26	0.22	16 23 13.07	19.31
	(* 67) W.	4	46.1	48.0	49.2	58.7	59.6	0.9	2.2	3.2	12.7	13.9	15.8	28 0.94	0.18	0.23	16 28 1.35	16.19
	ζ Ophiuchi	5	28.4	30.4	31.6	41.3	42.4	. .	44.7	45.7	55.6	56.8	58.7	29 43.56	+ 0.18	0.23	16 29 43.97	16.88
	O. Arg. S. 15836	6	9.1	. .	12.4	23.0	24.0	25.3	26.6	27.7	38.4	39.7	41.9	33 26.81	— 1.18	0.23	16 33 25.86	18.62
	O. Arg. S. 15881	7	23.2	25.4	26.6	36.8	37.9	39.2	40.4	41.5	51.9	53.2	55.2	35 39.21	+ 0.22	0.23	16 35 39.66	18.13
	Juno	†8	47.0	49.2	50.5	59.9	0.9	2.6	3.1	4.2	. .	. .	. .	38 57.10	5.18	0.23	16 39 2.51	. .
	Weisse 854	9	47.8	49.8	51.0	0.5	1.4	2.8	3.9	5.0	14.6	15.8	17.9	45 2.77	+ 0.18	0.24	16 45 3.19	16.42
	B. A. C. 5684	10	. .	. .	. .	26.1	27.4	29.5	47.6	50.4	51.9	53.4	54.8	47 42.64	— 30.16	0.24	16 47 12.72	19.78
	* — 31° 17′	11	. .	. .	. .	. .	. .	. .	8.7	11.8	13.2	14.7	16.3	48 12.94	— 39.10	0.24	16 47 34.08	19.78
	κ Ophiuchi	12	1.7	3.7	4.9	14.6	15.6	16.9	18.1	19.1	28.9	30.0	32.1	51 16.87	+ 0.15	0.24	16 51 17.26	14.70
	B. A. C. 5721	13	25.8	28.1	29.6	40.7	41.9	43.4	44.8	45.9	57.2	58.6	1.1	53 43.37	0.28	0.24	16 53 43.89	19.96
	* — 31° 34′	14	30.6	32.8	34.5	45.6	46.7	48.1	49.5	50.8	2.0	4.3	5.8	14 48.25	0.27	0.26	17 14 48.78	20.01
	b Ophiuchi	15	51.3	53.5	54.8	5.3	6.3	7.6	8.9	10.1	20.7	21.9	24.2	18 7.69	0.24	0.26	17 18 8.19	18.86
	O. Arg. S. 16816	16	57.1	59.3	0.6	10.8	11.9	13.2	14.4	15.6	25.9	27.1	29.2	20 13.19	0.22	0.26	17 20 13.67	18.42
	* — 31° 43′	17	58.4	0.7	2.1	13.3	14.6	15.9	17.4	18.5	30.0	31.2	33.6	23 15.97	+ 0.28	0.26	17 23 16.51	20.08
	B. A. C. 5946	18	. .	. .	. .	. .	. .	. .	15.9	18.7	20.0	21.5	23.0	30 19.82	— 37.84	0.27	17 29 42.25	19.49
	Rumker 5943	19	. .	. .	. .	. .	. .	. .	53.0	56.5	58.4	0.3	2.2	33 58.08	50.85	0.27	17 33 7.50	7.44
	Dorpat 2204, (1st *)	20	6.9	8.2	9.6	10.8	13.2	. .	14.8	17.2	18.4	19.8	21.3	38 44.02	— 0.04	0.27	17 38 44.25	17.49
	Dorpat 2204, (2d *)	21	28.9	30.9	32.1	41.8	43.0	44.2	45.4	46.4	56.3	57.5	59.7	38 44.20	+ 0.20	0.27	17 38 44.67	17.49
	μ Herculis	22	. .	. .	. .	. .	. .	. .	45.3	47.9	49.4	50.8	52.3	41 49.14	— 37.92	0.27	17 41 11.49	12.63
	Weisse 905	23	24.3	26.2	27.5	37.0	38.0	39.3	40.4	41.6	51.3	52.5	54.5	45 39.33	+ 0.18	0.28	17 45 39.79	16.87
	O. Arg. S. 17376	24	. .	. .	. .	29.6	30.9	33.2	49.7	52.4	53.7	55.0	56.4	48 45.11	— 28.10	0.28	17 48 17.29	18.85
	Dorpat 2245, (1st *)	25	13.8	15.7	17.0	. .	. .	. .	. .	. .	41.9	43.2	45.4	50 29.50	+ 0.09	0.28	17 50 29.87	13.92
	Dorpat 2245, (2d *)	26	. .	. .	. .	27.3	28.3	29.6	30.8	31.9	. .	. .	. .	50 29.58	+ 0.18	0.28	17 50 30.04	13.92
	* + 0° 2′	27	. .	. .	. .	48.7	49.8	51.9	7.2	9.6	10.8	12.1	13.5	53 2.95	— 25.86	0.28	17 52 37.37	15.97
	Dorpat 2264, (1st *)	28	30.7	32.8	34.2	. .	. .	. .	. .	. .	59.5	0.9	2.9	55 46.83	+ 0.09	0.28	17 55 47.20	13.55
	Dorpat 2264, (2d *)	29	. .	. .	. .	45.0	45.9	47.2	48.5	49.6	. .	. .	. .	55 47.24	0.18	0.28	17 55 47.70	13.55
	O. Arg. S. 17681	30	7.3	9.4	10.8	20.9	22.0	23.5	24.6	25.8	35.9	37.3	39.4	0 23.35	+ 0.23	0.29	18 0 23.87	18.58
	* — 23° 9′	31	48.0	49.1	50.4	51.8	53.0	.	23.4	25.9	27.4	28.7	30.2	5 8.79	— 18.03	0.29	18 4 51.05	18.83
	O. Arg. S. 17905	32	3.9	6.0	7.4	17.4	18.4	19.7	21.0	22.0	32.3	33.5	35.7	7 19.75	+ 0.22	0.29	18 7 20.26	18.27
	O. Arg. S. 17965	33	45.9	48.0	49.3	59.3	0.4	1.6	2.8	4.0	14.2	15.4	17.6	9 1.68	0.22	0.29	18 9 2.19	18.27
	O. Arg. S. 18044	34	25.9	28.1	29.5	39.9	41.0	42.2	43.6	44.8	55.2	56.5	58.7	11 42.31	0.24	0.29	18 11 42.84	18.87
	B. A. C. 6222	35	35.7	37.8	39.1	49.5	50.5	51.9	53.1	54.3	4.7	6.0	8.3	13 51.90	0.23	0.30	18 13 52.43	— 18.81
	δ Ursæ Minoris	36	. .	. .	. .	42.5	58.5	19.0	39.0	56.5	. .	. .	. .	16 19.10	1.40	0.30	. . . .	+ 69.49
	B. A. C. 6286	†37	0.7	2.8	4.3	14.8	15.8	17.0	18.4	19.5	30.0	31.2	33.4	22 17.08	0.24	0.30	18 22 17.62	— 18.86
	B. A. C. 6310	38	16.8	19.0	20.5	31.6	32.8	34.2	35.6	36.9	48.0	49.5	51.8	25 34.25	+ 0.27	0.30	18 25 34.82	20.02
	* — 31° 0′	39	0.6	2.0	3.4	4.8	7.5	. .	17.7	20.3	21.9	23.4	25.8	25 42.74	— 0.01	0.30	18 25 43.03	20.02
	β Lyræ	†40	48.6	50.9	52.5	3.8	5.0	6.5	7.9	9.1	20.6	22.0	24.6	45 6.50	+ 0.11	0.32	18 45 6.93	12.25
	Victoria	41	. .	. .	. .	50.9	51.9	53.2	54.4	55.4	5.1	6.2	8.4	3 58.19	— 4.82	0.33	19 3 53.70	. .
	* — 8° 10′	42	32.0	34.0	35.4	45.0	45.9	47.0	48.3	49.3	59.1	0.3	2.0	4 47.12	+ 0.19	0.33	19 4 47.64	16.91
	* — 8° 9′	43	9.4	11.6	13.0	23.3	24.4	25.7	26.9	28.0	38.6	39.8	41.9	16 25.69	+ 0.19	0.34	19 16 26.22	16.88
	* — 23° 27′	44	. .	. .	. .	. .	. .	. .	5.3	7.8	9.1	10.4	11.9	18 8.90	— 36.44	0.34	19 17 32.80	18.69
	O. Arg. S. 19587	45	15.3	17.4	19.0	29.6	30.6	32.0	33.3	34.5	45.2	46.5	48.8	20 32.03	+ 0.25	0.34	19 20 32.62	19.04
	O. Arg. S. 19685	46	25.0	27.1	28.6	39.4	40.4	41.8	43.0	44.4	55.2	56.5	58.7	24 41.83	+ 0.25	0.34	19 24 42.42	19.19
	O. Arg. S. 19708	47	23.6	25.1	26.5	27.8	30.5	. .	38.2	40.9	42.3	43.7	45.2	26 4.38	— 0.02	0.34	19 26 4.70	19.18
	O. Arg. S. 19713	48	55.3	57.5	59.0	9.7	10.6	11.9	13.3	14.5	25.4	26.6	28.9	26 12.06	+ 0.25	0.34	19 26 12.65	19.18
	Eunomia	49	49.9	51.9	53.3	3.6	4.7	5.9	7.2	8.4	19.0	20.2	22.5	33 6.05	0.24	0.35	19 33 6.64	. .
	* — 23° 11′	50	11.7	14.0	15.3	25.6	26.7	28.0	29.3	30.4	40.8	42.3	45.4	36 28.14	+ 0.24	+ 0.35	19 36 28.73	— 18.54

8. Very faint.
37. Clouds.
40. Clouds up.
July 6. Stars steady; interrupted by clouds.

			s.
July 6,	7h. to 11h.	n. =	— 0.09.
	16h. to 20h.		0.13.
	4h. to 7h.		— 0.09.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 6, 16.3	+ 0.22	+ 0.039	+ 0.165
4.8	+ 0.76	+ 0.066	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s	h. m. s.	s.
1864. July 6	γ Aquilæ	1	35. 4	37. 5	38. 8	48. 5	49. 6	50. 8	52. 0	53. 0	2. 7	4. 0	6. 0	39 50. 75	+ 0. 14	+ 0. 35	19 39 51. 24	− 15. 02
Y.	β Aquilæ	2	26. 0	28. 0	29. 3	38. 8	39. 8	41. 1	42. 3	43. 4	53. 0	54. 1	56. 3	48 41. 10	0. 15	0. 35	19 48 41. 60	− 15. 42
	λ Ursæ Minoris . .	3	. .	. .	. .	42. 0	33. 5	37. 0	38. 0	34. 0	. .	. .	. .	0 36. 90	+ 4. 31	0. 36	. . . .	+ 191. 79
R.	α Tauri	4	. .	. .	. .	. .	. .	. .	39. 4	41. 8	43. 2	44. 6	45. 8	28 42. 96	− 34. 89	0. 74	. . . .	. .
	α Orionis	5	33. 8	35. 7	37. 0	46. 4	47. 6	48. 8	49. 9	51. 0	0. 7	2. 0	4. 0	47 48. 81	+ 0. 16	0. 78	. . . .	− 14. 20
	Mercury II . . .	6	43. 9	46. 0	47. 5	58. 0	59. 0	0. 2	1. 5	2. 7	13. 2	14. 6	16. 9	19 0. 32	+ 0. 14	0. 86	6 19 1. 32	0. 20
7, Y.	α Tauri	7	3. 9	5. 0	6. 3	7. 6	8. 7	. .	37. 9	40. 4	41. 7	43. 0	44. 4	28 23. 89	− 17. 38	2. 30	4 28 8. 81	15. 36
	β Orionis	8	43. 4	45. 6	46. 8	56. 5	57. 5	58. 7	59. 9	0. 9	10. 6	11. 9	13. 9	7 58. 70	+ 0. 19	2. 34	5 8 1. 23	12. 54
	β Tauri	9	23. 9	26. 2	27. 6	38. 5	39. 6	40. 9	42. 2	43. 5	54. 4	55. 8	58. 1	17 40. 97	0. 08	2. 35	5 17 43. 40	16. 75
	δ Orionis	10	47. 2	49. 2	50. 4	59. 9	1. 0	2. 1	3. 3	4. 3	14. 0	15. 2	17. 3	25 2. 17	0. 17	2. 36	5 25 4. 70	13. 40
	Mercury II . . .	11	39. 4	41. 5	42. 8	53. 5	54. 5	55. 9	57. 0	58. 2	8. 8	10. 0	12. 3	27 55. 81	0. 10	2. 42	6 27 58. 33	0. 20
8	Sun I	12	59. 2	1. 4	2. 6	. .	. .	. .	. .	. .	28. 2	29. 5	31. 7	11 15. 43	0. 06	2. 47	7 11 17. 96	. .
	Sun II	13	15. 8	18. 0	19. 3	29. 6	30. 7	32. 1	33. 3	34. 5	44. 9	45. 9	48. 1	13 32. 02	0. 10	2. 47	7 13 34. 59	. .
	Weisse 221 . . .	14	2. 2	4. 2	5. 6	15. 4	16. 4	17. 6	18. 7	19. 9	29. 9	30. 9	33. 2	12 17. 64	0. 23	3. 06	6 12 20. 94	17. 10
	ζ Ophiuchi . .	15	4. 2	5. 5	6. 8	8. 1	10. 4	. .	11. 4	13. 9	14. 9	16. 4	17. 8	29 40. 84	0. 10	3. 08	16 29 44. 02	16. 88
		16	25. 6	27. 5	29. 0	38. 5	39. 6	40. 7	41. 8	42. 9	52. 7	54. 0	55. 9					
	B. A. C. 5600 . .	†17	35. 4	37. 5	38. 8	49. 6	51. 7	52. 0	53. 3	54. 5	5. 3	6. 6	8. 9	35 52. 15	0. 31	3. 08	16 35 55. 54	19. 06
	μ Herculis . . .	18	51. 3	53. 5	54. 9	5. 6	6. 7	8. 0	9. 5	10. 6	21. 5	22. 9	25. 3	41 8. 16	0. 05	3. 15	17 41 11. 36	12. 63
	O. Arg. S. 17339 .	19	17. 6	19. 7	21. 0	31. 3	32. 3	33. 5	34. 8	36. 0	46. 3	47. 6	49. 8	46 33. 63	+ 0. 29	3. 16	17 46 37. 06	18. 52
	O. Arg. S. 17376 .	20	11. 5	12. 6	13. 8	15. 1	16. 1	. .	46. 7	49. 5	50. 8	52. 3	53. 6	48 32. 20	− 18. 01	3. 16	17 48 17. 35	18. 86
	B. A. C. 6072 . .	21	. .	. .	. .	15. 8	17. 8	19. 4	36. 8	39. 5	40. 9	42. 4	43. 9	50 32. 06	− 29. 34	3. 16	17 50 5. 88	19. 67
	O.A.S.17506 (1st *)	22	29. 6	31. 0	32. 3	33. 8	36. 3	. .	41. 3	44. 0	45. 5	46. 7	48. 0	54 8. 85	+ 0. 03	3. 17	17 54 12. 05	18. 82
	O.A.S.17506 (2d *)	23	52. 6	54. 9	56. 3	6. 6	7. 7	8. 9	10. 1	11. 4	22. 0	23. 1	25. 3	54 8. 99	0. 29	3. 17	17 54 12. 45	18. 82
	* — 22° 50′ . .	24	25. 9	27. 9	29. 4	39. 7	40. 8	42. 1	43. 3	44. 6	54. 9	56. 3	58. 6	55 42. 14	0. 29	3. 17	17 55 45. 60	18. 79
	μ Sagittarii . . .	25	22. 5	24. 6	26. 0	36. 2	37. 2	38. 5	39. 7	40. 9	51. 2	52. 5	54. 6	5 38. 54	+ 0. 27	3. 18	18 5 41. 99	18. 56
	O. Arg. S. 17905 .	26	. .	. .	. .	. .	. .	. .	48. 9	51. 3	52. 6	54. 0	55. 4	7 52. 44	− 35. 34	3. 18	18 7 20. 28	18. 28
	O. Arg. S. 17965 .	27	43. 0	45. 2	46. 4	56. 5	57. 5	58. 8	0. 0	1. 2	11. 3	12. 6	14. 7	8 58. 84	+ 0. 25	3. 18	18 9 2. 28	18. 28
	O. Arg. S. 18044 .	28	23. 1	25. 2	26. 5	37. 1	38. 2	39. 4	40. 6	41. 9	52. 3	53. 7	55. 8	11 39. 44	0. 29	3. 19	18 11 42. 92	18. 88
	B. A. C. 6222 . .	29	33. 0	35. 0	36. 4	46. 6	47. 7	49. 1	50. 4	51. 5	2. 0	3. 3	5. 4	13 49. 13	+ 0. 27	3. 19	18 13 52. 61	18. 82
	δ Ursæ Minoris . .	30	. .	. .	. .	42. 0	59. 0	. .	40. 0	56. 0	37. 5	0. 0	32. 5	17 55. 29	− 1 37. 28	3. 19	. . . .	. .
	O. Arg. S. 18609 .	31	. .	. .	. .	29. 8	30. 8	32. 0	33. 2	34. 3	44. 8	45. 9	48. 1	36 37. 36	− 5. 14	3. 21	18 36 35. 53	18. 55
	O. Arg. S. 18623 .	32	56. 1	58. 4	59. 6	9. 8	10. 8	12. 2	13. 3	14. 5	24. 9	26. 1	28. 3	37 12. 18	+ 0. 27	3. 21	18 37 15. 66	18. 55
	B. A. C. 6382 . .	33	. .	. .	. .	17. 0	18. 2	20. 6	38. 0	40. 6	42. 0	43. 6	45. 0	39 33. 12	− 29. 26	3. 22	18 39 7. 08	19. 59
	B. A. C. 6414 . .	34	42. 2	43. 5	44. 9	56. 0	57. 2	58. 6	59. 9	1. 2	12. 5	13. 7	16. 2	43 58. 83	+ 0. 34	3. 22	18 44 2. 19	19. 96
	33 Sagittarii . . .	35	. .	. .	. .	5. 6	7. 0	9. 1	25. 6	28. 2	29. 5	30. 7	32. 3	46 21. 00	− 27. 70	3. 23	18 45 56. 53	18. 58
	* — 19° 21′ . .	36	20. 6	22. 8	24. 1	34. 2	35. 3	36. 6	37. 8	39. 0	49. 1	50. 4	52. 5	49 36. 58	+ 0. 26	3. 23	18 49 40. 07	18. 28
	O. Arg. S. 18939 .	37	. .	. .	. .	45. 4	46. 7	49. 1	6. 5	9. 1	10. 6	12. 1	13. 5	53 1. 62	− 29. 39	3. 23	18 52 35. 46	19. 61
	Lalande 35497 .	38	48. 9	51. 0	52. 3	2. 4	3. 4	4. 7	6. 0	7. 0	17. 3	18. 5	20. 7	55 4. 75	+ 0. 26	3. 23	18 55 8. 24	18. 28
	O. Arg. S. 19120 .	39	15. 6	17. 8	19. 2	29. 5	30. 6	31. 9	33. 3	34. 5	44. 9	46. 2	48. 5	0 32. 00	0. 29	3. 24	19 0 35. 53	18. 78
	* — 8° 3′ . . .	40	37. 9	39. 9	41. 2	50. 9	51. 8	53. 0	54. 3	55. 3	4. 9	6. 0	8. 2	3 53. 04	+ 0. 20	3. 24	19 3 56. 48	16. 91
	ω Aquilæ	41	49. 6	50. 9	52. 2	53. 4	55. 8	. .	56. 9	59. 6	0. 9	2. 1	3. 3	11 26. 47	− 0. 11	3. 25	19 11 29. 61	14. 89
	* — 23° 18′ . .	42	. .	. .	. .	53. 2	54. 2	55. 5	56. 8	58. 0	8. 5	9. 8	12. 0	17 1. 00	− 5. 11	3. 26	19 16 59. 15	18. 69
	Lacaille 8152 . .	43	6. 6	9. 0	10. 4	21. 6	22. 7	24. 2	25. 5	26. 8	38. 3	39. 6	42. 0	26 24. 25	+ 0. 35	3. 27	19 26 27. 87	19. 54
	Eunomia . . .	44	40. 9	43. 1	44. 5	55. 0	56. 0	57. 2	58. 5	59. 6	10. 0	11. 3	13. 5	30 57. 24	0. 29	3. 27	19 31 0. 80	. .
	β Aquilæ	45	23. 2	25. 2	26. 4	36. 0	36. 9	38. 1	39. 4	40. 5	50. 3	51. 4	53. 4	48 38. 26	0. 14	3. 29	19 48 41. 69	15. 45
	α Tauri	46	19. 2	51. 2	52. 6	2. 4	3. 5	4. 7	5. 9	7. 0	17. 1	18. 3	20. 6	28 4. 77	0. 13	3. 92	4 28 8. 82	15. 38
R.	β Orionis	47	41. 9	43. 9	45. 2	54. 8	55. 7	57. 0	58. 2	59. 2	9. 0	10. 2	12. 3	7 57. 04	+ 0. 19	4. 01	5 8 1. 24	12. 56
	α Orionis	†48	9. 3	10. 7	12. 0	13. 3	15. 5	. .	16. 2	18. 4	19. 8	21. 0	22. 5	47 45. 87	− 0. 09	4. 04	5 47 49. 82	14. 25
	Mercury II . . .	†49	43. 6	45. 6	47. 0	57. 5	58. 6	59. 8	1. 1	2. 2	13. 0	14. 2	16. 5	36 59. 92	+ 0. 12	4. 07	6 37 4. 11	0. 19
	α Canis Majoris . .	†50	49. 8	52. 0	53. 4	3. 1	4. 2	5. 4	6. 6	7. 8	17. 8	19. 0	21. 3	39 5. 49	+ 0. 21	+ 4. 08	6 39 9. 78:	− 11. 28

17. Through clouds.
48. Through clouds.
49. Faint.
50. Unsteady.

s.
July 7–8, 4h. to 8h. n. = — 0. 19.
8, 16h. to 20h. 0. 25.
8–9, . . . — 0. 13.
July 8. Much interrupted by clouds.

r.
July 8, 17h. Image east 0. 23. Clamp east.
Image west 0. 29. Clamp west.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 8, 12. 4	+ 2. 81	+ 0. 065	+ 0. 165

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 9	Sun I	1	3.1	5.2	6.6	16.9	17.9	19.3	20.6	21.8	32.0	33.4	35.6	15 19.31	+ 0.12	+ 4.10	7 15 23.53	. .
R.	Sun II	2	19.8	21.8	23.3	33.5	34.6	35.9	37.2	38.5	48.8	50.1	52.2	17 35.97	0.12	4.10	7 17 40.19	. .
	Moon I	†3	5.5	6.9	8.1	9.4	11.6	. .	12.9	15.4	16.6	17.9	19.3	25 42.23	0.06	4.28	11 25 46.57	. .
		†4	26.8	28.9	30.1	39.8	40.9	42.2	43.2	44.5	54.2	55.3	57.4					
	β Leonis	5	49.0	51.1	52.5	2.2	3.3	4.5	5.8	6.8	16.8	18.0	20.1	42 4.55	0.14	. .	. . . .	− 14.06
	δ Ursæ Minoris	6	. .	. .	. .	38.0	53.0	14.0	35.0	52.5	. .	. .	. .	16 14.50	+ 1.40	4.57	. . . .	+ 69.86
	β Lyræ	†7	. .	. .	. .	. .	. .	. .	38.4	41.1	42.6	44.0	45.8	45 42.38	− 40.10	4.60	18 45 6.88	− 12.26
	δ Aquilæ	†8	22.4	24.3	25.8	35.3	36.3	37.4	38.7	39.7	49.1	50.4	52.4	18 37.44	+ 0.16	4.62	19 18 42.22	15.84
10	Moon I	9	34.7	36.7	38.1	47.7	48.8	50.0	51.2	52.3	2.1	3.3	5.5	11 50.04	+ 0.17	5.74	12 11 55.95	. .
	γ^1 Virginis	†10	. .	. .	. .	. .	. .	. .	12.8	15.0	16.4	17.6	19.0	35 16.16	− 33.49	5.76	. . . .	14.39
Y.	α Orionis	11	. .	. .	. .	. .	. .	. .	13.3	16.0	17.0	18.4	19.8	48 16.90	− 33.78	6.79	. . . .	14.29
11	μ Sagittarii	12	18.1	20.2	21.6	31.8	32.8	34.1	35.4	36.5	46.9	48.1	50.4	5 34.17	+ 0.25	7.55	18 5 41.97	18.57
	δ Ursæ Minoris	†13	59.0	33.3	55.0	34.3	51.0	11.2	31.0	49.5	33.0	51.7	25.5	16 12.25	− 0.42	7.55	. . . .	. .
	1 Aquilæ	14	. .	31.3	32.6	42.1	43.2	44.4	45.6	46.7	56.4	57.6	. .	27 44.43	+ 0.20	7.57	18 27 52.20	16.97
	O. Arg. S. 18486	15	51.7	53.7	55.0	5.5	6.6	7.8	9.1	10.2	20.9	22.1	24.3	39 7.90	+ 0.26	7.57	18 30 15.73	18.86
	O. Arg. S. 18493	16	. .	. .	. .	40.8	42.0	43.4	44.6	45.7	56.2	57.5	59.7	30 48.74	− 5.14	7.57	18 30 51.17	18.87
	51 Cephei, S. P.	17	. .	. .	. .	15.5	52.5	28.7	4.0	43.0	. .	. .	. .	35 28.74	0.47	7.57	6 35 35.84	116.76
	* — 30° 56′	18	53.8	56.2	57.5	. .	9.9	11.4	12.8	14.0	25.3	26.6	29.0	42 11.65	− 0.05	7.58	18 42 19.28	20.00
	B. A. C. 6414	19	. .	39.2	40.4	51.8	52.9	54.3	55.7	56.8	8.1	9.4	. .	43 54.29	+ 0.34	7.58	18 44 2.19	20.00
	O. Arg. S. 18915	20	. .	. .	. .	22.9	24.0	25.3	26.6	27.8	39.1	40.4	42.6	51 31.09	− 5.37	7.59	18 51 33.31	19.66
	Dorpat 2434 (1st *)	21	4.2	5.5	6.8	8.0	10.3	. .	10.3	12.7	14.0	15.3	16.6	55 40.37	− 0.07	7.59	18 55 47.89	16.16
	Dorpat 2434, (2d *)	22	26.5	28.4	29.6	39.1	40.1	41.3	42.5	43.5	53.1	54.2	56.4	55 41.34	+ 0.17	7.59	18 55 49.10	16.16
	Victoria	23	11.8	13.9	15.3	24.6	25.6	26.7	27.9	28.9	38.8	39.9	42.0	59 26.85	0.16	7.60	18 59 34.61	. .
	O. Arg. S. 19341	24	55.0	57.3	58.9	9.7	10.9	12.2	13.6	14.7	25.7	27.1	29.4	8 12.23	0.29	7.60	19 8 20.12	19.57
	ω Aquilæ	25	6.5	8.6	9.9	19.7	20.6	21.8	23.0	24.0	34.0	35.3	37.3	11 21.88	0.13	7.61	19 11 29.62	14.92
	O. Arg. S. 19459	26	46.8	49.0	50.4	1.3	2.3	3.7	5.2	6.3	17.4	18.6	21.0	15 3.82	0.29	7.61	19 15 11.72	19.54
	O. Arg. S. 19465	27	54.5	56.7	58.1	9.0	10.1	11.5	12.8	14.0	25.1	26.5	28.8	15 11.55	0.29	7.61	19 15 19.45	19.54
	* — 23° 45′	28	8.7	10.9	12.3	22.6	23.7	25.0	26.3	27.6	38.0	39.3	41.6	17 25.09	0.26	7.61	19 17 32.96	18.74
	Eunomia	29	25.4	27.6	28.9	39.2	40.1	41.4	42.8	44.1	54.5	55.8	58.1	27 41.63	0.26	7.63	19 27 49.52	. .
	* — 24° 43′	30	28.5	30.5	32.0	42.4	43.4	44.8	46.0	47.2	57.9	59.0	1.3	33 44.82	+ 0.27	7.63	19 33 52.72	18.82
	O. Arg. S. 19879	31	. .	. .	. .	17.4	18.6	19.9	21.3	22.5	33.0	34.4	36.5	34 25.45	− 5.18	7.63	19 34 27.90	18.82
	* + 8° 2′	32	. .	. .	. .	. .	. .	. .	32.6	34.9	36.3	37.6	38.8	36 36.04	− 33.84	7.63	19 36 9.83	15.28
	Dorpat 2562, (1st *)	33	50.5	51.7	53.8	. .	. .	. .	. .	. .	17.5	18.7	20.6	36 5.47	+ 0.10	7.63	19 36 13.20	15.28
	Dorpat 2562, (2d *)	34	. .	. .	. .	5.1	6.2	7.4	8.6	9.7	. .	. .	. .	36 7.40	0.19	7.63	19 36 15.22	− 15.28
	λ Ursæ Minoris	†35	. .	. .	. .	41.0	32.0	33.0	35.0	29.0	. .	. .	. .	0 34.00	1.19	7.66	. . . .	+ 191.65
	O. Arg. S. 20443	36	17.4	19.4	20.7	31.2	32.3	33.5	34.8	35.9	46.4	47.8	49.9	14 33.57	0.26	7.67	20 14 41.50	− 18.27
	* — 22° 15′	37	16.3	18.5	19.8	30.2	31.3	32.5	33.7	34.9	45.4	46.5	48.6	17 32.52	0.26	7.68	20 17 40.46	18.18
	ρ Capricorni	38	46.3	48.5	49.7	59.7	0.7	2.0	3.2	4.4	14.4	15.6	17 9	21 2.04	0.24	7.68	20 21 9.96	17.69
	ε Delphini	39	23.5	25.5	26.8	36.4	37.5	38.7	40.0	41.0	50.8	52.0	54.1	26 38.75	0.13	7.68	20 26 46.56	15.09
	α Tauri	40	44.8	46.8	48.0	58.0	59.0	0.4	1.5	2.7	12.7	14.0	16.0	28 0.35	0.13	8.45	4 28 8.93	15.46
R.	β Orionis	41	37.6	39.5	40.8	50.3	51.5	52.6	53.8	54.9	4.7	5.8	7.9	7 52.67	0.19	8.42	5 8 1.28	12.62
	β Tauri	42	17.8	20.1	21.4	32.3	33.6	34.8	36.2	37.5	48.4	49.8	52.1	17 34.91	0.12	8.45	5 17 43.48	16.85
	α Orionis	43	26.2	28.2	29.5	38.8	39.9	41.1	42.2	43.3	53.3	54.4	56.5	47 41.22	+ 0.15	8.54	5 47 49.91	14.31
	α Canis Majoris	44	. .	. .	. .	13.3	14.6	16.5	32.6	35.0	36.4	37.8	39.1	39 28.16	− 26.90	8.60	6 39 9.86	11.32
13	Moon I	45	59.8	1.9	3.2	13.4	14.5	15.8	17.1	18.2	28.4	29.7	31.8	41 15.80	+ 0.25	10.54	14 41 26.59	. .
Y	α Libræ	46	58.5	0.4	1.7	11.6	12.6	13.9	15.2	16.4	26.3	27.5	29.7	43 13.98	+ 0.25	10.54	14 43 24.77	16.45
	β Ursæ Minoris	†47	1.6	9.3	13.7	49.8	53.5	58.3	2.6	6.7	43.1	47.8	55.6	50 58.36	− 0.27	10.55	14 51 8.64	0.49
	ι^1 Libræ	48	5.3	7.4	8.7	18.7	19.8	21.0	22.3	23.4	33.6	34.9	37.0	4 21.10	+ 0.27	10.54	15 4 31.93	17.09
	β Libræ	49	18.9	20.9	22.2	31.8	. .	34.0	35.2	36.3	45.9	47.2	49.3	9 34.17	+ 0.08	+ 10.56	15 9 44.81	− 16.11

3–4. Steady; through clouds.
7. Very faint; through clouds.
8. Faint.
10. Through clouds.
13. Steady.
35. Steady.
47. Steady.

July 11, 18h. to 21h. n. = − 0.19 s.
4h. to 7h. 0.13.
13 . . . . − 0.25.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 9, 10.3	+ 4.23	+ 0.043	+ 0.165
10, 12.6	5.76	0.050	. .
11, 17.1	7.48	0.061	. .
5.5	8.52	0.070	0.165
13, 16.9	+ 10.66	+ 0.056	+ 0.170

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. July 13 Y.	O. Arg. S. 14531 .	1	40.6	42.8	44.2	54.3	55.4	56.7	57.9	59.0	9.4	10.6	12.8	16 56.70	+ 0.28	+10.57	15 17 7.55	— 17.48
	O. Arg. S. 14554 .	2	25.9	28.2	29.5	39.7	40.7	42.0	43.3	44.5	54.9	56.1	58.3	18 42.10	0.28	10.57	15 18 52.95	17.55
	Lacaille 6409 . .	3	56.2	58.5	59.9	11.2	12.4	13.7	15.3	16.4	27.9	29.2	31.6	23 13.85	0.36	10.58	15 23 24.79	18.89
	Lacaille 6439 . .	4	15.3	17.4	19.0	30.3	31.5	32.9	34.4	35.6	47.0	48.5	50.9	27 32.98	0.36	10.58	15 27 43.92	18.99
	O. Arg. S. 14701 .	5	55.7	57.8	59.2	9.8	10.9	12.4	13.5	14.7	25.5	26.8	29.0	29 12.30	0.31	10.58	15 29 23.19	18.13
	Lacaille 6473 . .	6	25.3	27.7	29.0	40.1	41.3	42.8	44.2	45.3	56.5	57.9	0.2	31 42.75	+ 0.34	10.58	15 31 53.67	18.80
	Lacaille 6491 . .	7	0.2	1.5	2.9	4.2	5.3	. .	38.4	41.1	42.7	44.2	45.6	34 22.61	— 19.41	10.59	15 34 13.79	18.97
	O. Arg. S. 14839 .	8	19.9	22.2	23.4	33.6	34.7	36.0	37.1	38.3	48.8	50.1	52.3	37 36.04	+ 0.29	10.59	15 37 46.92	17.81
	* — 20° 47′ . .	9	12.4	14.6	15.9	26.0	27.1	28.4	29.6	30.8	41.2	42.3	44.6	39 28.45	0.28	10.59	15 39 39.32	17.65
	ε Serpentis . . .	10	40.0	41.9	43.0	52.4	53.4	54.7	55.9	57.0	6.5	7.6	9.7	43 54.74	+ 0.15	10.59	15 44 5.48	15.09
	* — 21° 32′ . .	11	. .	. .	. .	28.5	29.8	31.9	48.3	50.9	52.3	53.7	55.0	45 43.80	— 27.69	10.59	15 45 26.70	17.80
	* — 21° 48′ . .	12	27.6	29.7	31.0	41.2	42.3	43.5	44.7	45.9	56.3	57.6	59.7	48 43.59	+ 0.28	10.60	15 48 54.47	17.87
	B. A. C. 5296 . .	13	48.3	50.6	52.0	2.9	4.1	5.4	6.8	8.0	19.1	20.5	22.9	51 5.52	+ 0.34	10.60	15 51 16.46	18.92
	O. Arg. S. 15112 .	14	. .	. .	. .	50.7	51.9	53.2	54.5	55.6	6.2	7.5	9.6	52 58.65	— 5.12	10.60	15 53 4.13	18.16
	O. Arg. S. 15183 .	15	. .	. .	. .	40.4	41.4	42.8	44.0	45.3	. .	. .	. .	56 42.78	+ 0.34	10.61	15 56 53.73	18.13
	O. Arg. S. 15191 .	16	. .	. .	. .	3.2	4.3	5.7	7.0	8.1	18.6	19.8	22.1	57 11.10	— 5.10	10.61	15 57 16.61	18.13
	O. Arg. S. 15205 .	17	36.8	38.9	40.1	50.6	51.6	52.9	54.3	55.3	5.7	7.2	9.4	57 52.98	+ 0.29	10.61	15 58 3.88	18.14
	O. Arg. S. 15271 .	18	9.3	11.6	12.9	24.1	25.2	26.5	28.0	29.1	40.1	41.6	43.8	0 26.56	0.34	10.61	16 0 37.51	19.05
	B. A. C. 5394 . .	19	11.6	13.9	15.2	25.6	26.7	28.0	29.4	30.5	41.0	42.3	44.6	5 28.07	0.30	10.62	16 5 38.99	18.32
	O. Arg. S. 15466 .	20	35.3	37.3	38.7	48.9	49.8	51.0	52.3	53.5	3.8	5.1	7.3	8 51.18	+ 0.28	10.62	16 9 2.08	17.96
	* — 30° 4′ . . .	21	. .	. .	. .	22.4	23.4	24.8	26.1	27.4	38.5	39.8	42.2	10 30.58	— 5.39	10.62	16 10 35.81	19.21
	Lacaille 6796 . .	22	. .	. .	. .	32.1	33.3	34.6	36.0	37.4	48.7	50.0	52.5	12 40.58	5.54	10.62	16 12 45.66	19.68
	Lacaille 6797 . .	23	. .	. .	. .	. .	. .	. .	18.8	21.7	23.0	24.5	26.2	13 22.84	— 39.70	10.62	16 12 53.76	19.67
	O. Arg. S. 15390	24	46.0	48.1	49.5	59.5	0.6	1.8	3.1	4.1	14.4	15.6	17.9	16 1.87	+ 0.27	10.63	16 16 12.77	17.87
	O. Arg. S. 15643 .	25	35.6	37.8	39.3	50.1	51.3	52.7	54.0	55.1	6.3	7.5	9.9	18 52.69	0.33	10.63	16 19 3.65	19.14
	B. A. C. 5522 . .	26	57.5	59.7	1.3	12.4	13.5	14.8	16.2	17.5	28.9	30.2	32.5	24 14.95	+ 0.35	10.63	16 24 25.93	19.54
	Lacaille 6891 . .	27	14.4	15.6	17.0	18.5	19.7	. .	53.5	56.3	57.9	59.3	0.8	27 37.30	— 19.86	10.64	16 27 28.08	20.01
	Weisse 562 . . .	28	. .	. .	. .	20.6	21.8	23.8	38.9	41.3	42.5	43.9	45.3	30 34.76	25.85	10.64	16 30 19.55	15.70
	Weisse 575 . . .	29	. .	. .	. .	54.5	55.8	57.8	13.0	15.4	16.7	17.9	19.3	31 8.80	25.85	10.64	16 30 53.59	15.70
	Weisse 637 . . .	30	22.3	24.3	25.6	. .	36.1	37.3	38.4	39.5	49.2	50.3	52.4	33 37.54	0.05	10.64	16 33 48.13	15.73
	B. A. C. 5605 . .	31	. .	. .	. .	30.3	31.5	32.8	34.3	35.5	46.8	48.0	50.4	36 38.70	5.42	10.64	16 36 43.92	19.55
	B. A. C. 5612 . .	32	. .	. .	. .	. .	. .	. .	39.2	41.9	43.4	45.0	46.4	38 43.18	— 39.00	10.64	16 38 14.82	19.68
	B. A. C. 5630 . .	33	25.7	28.0	29.5	40.6	41.8	43.2	44.6	45.8	57.1	58.4	0.8	40 43.23	+ 0.35	10.65	16 40 54.23	19.73
	Weisse 845 . . .	34	12.2	14.3	15.4	25.0	26.1	27.3	28.6	29.5	39.2	40.5	42.6	44 27.34	0.21	10.65	16 44 38.20	16.74
	O. Arg. S. 16100 .	35	33.7	35.9	37.5	48.2	49.4	50.7	52.1	53.4	4.4	5.7	8.0	46 50.82	0.33	10.65	16 47 1.80	19.41
	Weisse 958 . . .	36	46.0	48.1	49.3	58.9	59.9	1.1	2.4	3.3	13.0	14.2	16.2	51 1.13	+ 0.19	10.66	16 51 11.98	16.26
	Weisse 981 . . .	37	. .	. .	. .	. .	. .	. .	1.7	4.2	5.6	6.8	8.2	53 5.30	— 33.54	10.66	16 52 42.42	16.26
	30 Ophiuchi . . .	38	31.0	33.1	34.2	43.9	45.0	46.1	47.3	48.4	58.0	59.1	1.1	53 46.11	+ 0.19	10.66	16 53 56.96	16.26
	Weisse 1011 . .	39	. .	. .	. .	12.5	13.7	15.8	31.0	33.3	34.5	35.8	37.0	54 26.70	— 25.89	10.66	16 54 11.47	16.26
	Dorpat 2119 (1st *)	†40	4.0	5.4	6.6	7.8	10.3	. .	11.8	14.5	15.7	16.8	18.2	58 41.11	0.00	10.66	16 58 51.77	17.41
	Dorpat 2119 (2d *)	41	25.6	27.7	29.0	38.8	39.8	40.9	42.2	43.2	53.3	54.4	56.5	58 41.04	+ 0.24	10.66	16 58 51.94	17.41
	O. Arg. S. 16420 .	42	46.7	49.0	50.2	0.9	2.0	3.2	4.7	5.7	16.6	18.0	20.2	3 3.38	0.31	10.67	17 3 14.36	19.14
	O. Arg. S. 16505 .	43	59.9	1.4	2.7	4.2	6.7	. .	13.7	16.3	17.9	19.3	20.8	6 40.29	0.05	10.67	17 6 51.01	19.14
	A Ophiuchi (1st *) .	44	12.2	13.7	15.0	16.4	19.1	. .	26.0	28.9	30.2	31.6	33.0	6 52.61	0.05	10.67	17 7 3.33	19.14
	A Ophiuchi (2d *) .	45	35.9	38.0	39.5	50.2	51.3	52.6	54.0	55.2	5.6	6.9	9.3	6 52.68	+ 0.31	10.67	17 7 3.66	19.14
	a Herculis . . .	46	. .	. .	. .	. .	. .	. .	50.5	53.0	54.3	55.6	57.0	8 54.08	— 34.66	10.67	17 8 30.09	14.25
	Dorpat 2149 . .	†47	. .	. .	. .	. .	. .	. .	3.9	6.6	7.5	8.8	10.0	13 7.36	— 33.65	10.67	17 12 44.38	16.59
	b Ophiuchi . . .	48	40.8	43.0	44.3	54.8	55.9	57.2	58.5	59.6	10.0	11.3	13.7	17 57.19	+ 0.30	10.68	17 18 8.17	18.86
	O. Arg. S. 16844 .	†49	19.6	21.7	23.0	33.1	34.0	35.3	36.5	37.7	48.0	49.3	51.4	21 35.42	+ 0.27	10.69	17 21 46.38	— 18.23
	δ Ursæ Minoris . .	50	. .	30.0	53.0	. .	49.5	10.0	30.0	47.0	30.0	50.0	. .	15 14.94	— 5.82	+10.74	. . . .	. .

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 13, 16.9	+ 10.66	+ 0.056	+ 0.170

40. Very close; double.
47. Southward and preceding.
49. A very red star.

DATE.	OBJECT	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 13	51 Cephei, S. P.	1	. .	. .	. .	11.0	52.0	26.0	2.0	39.0	. .	. .	. .	35 26.00	+ 0.67	+10.76	18 35 37.43	— 117.01
Y.	β Lyræ	2	38.4	40.7	42.2	53.5	54.7	56.0	57.5	58.8	0.2	1.7	4.1	44 56.16	0.04	10.76	18 45 6.96	12.27
	δ Aquilæ	3	16.4	18.3	19.6	29.0	30.1	31.3	32.4	33.4	43.1	44.1	46.2	18 31.26	0.16	10.80	19 18 42.12	15.87
	α Tauri	4	42.0	44.0	45.5	55.2	56.3	57.6	58.8	59.9	9.9	11.0	13.2	27 57.58	0.13	11.26	4 28 8.97	15.51
	β Orionis	5	34.7	36.8	38.0	47.5	48.5	49.8	50.9	52.2	1.9	3.0	5.1	7 49.85	0.19	11.28	5 8 1.32	12.67
	β Tauri	6	15.1	17.3	18.8	29.6	30.7	32.0	33.5	34.8	45.5	47.0	49.2	17 32.14	0.11	11.29	5 17 43.54	16.91
	δ Orionis	7	38.4	40.4	41.6	51.3	52.3	53.4	54.5	55.6	5.2	6.4	8.5	24 53.42	0.17	11.29	5 24 4.88	13.52
	ε Orionis	8	53.5	55.6	56.8	6.2	7.2	8.5	9.7	10.7	20.4	21.5	23.6	29 8.52	0.17	11.30	5 29 19.99	13.41
14	Sun I	9	16.6	18.8	20.1	30.3	31.5	32.7	34.0	35.0	45.4	46.8	48.9	35 32.74	0.12	11.38	7 35 44.24	. .
	Sun II	10	32.6	34.6	36.1	46.3	47.4	48.7	49.9	51.1	1.5	2.8	4.9	37 48.72	0.12	11.38	7 38 0.22	. .
	α Leonis	11	41.9	44.1	45.5	55.2	56.1	57.3	58.5	59.7	9.6	10.6	12.9	0 57.40	0.14	11.48	10 1 9.02	14.23
	O. Arg. S. 14311	12	51.4	53.7	55.0	5.5	6.6	8.0	9.2	10.5	21.0	22.3	24.7	2 7.99	0.26	11.68	15 2 19.93	17.72
	ι¹ Libræ	13	4.1	6.2	7.5	17.7	18.7	20.0	21.2	. .	32.5	33.7	35.9	4 19.75	0.46	11.68	15 4 31.89	17.08
	β Libræ	14	17.7	19.7	21.0	30.5	31.6	32.8	34.0	35.1	44.8	46.0	48.1	9 32.85	0.19	11.68	15 9 44.72	16.10
	Lacaille 6342	15	19.3	21.7	23.2	34.3	35.4	36.8	38.2	39.6	50.9	52.2	54.5	13 36.92	0.29	11.69	15 13 48.90	18.56
	O Arg. S. 14554	16	24.8	27.0	28.3	38.5	39.6	40.9	42.1	43.2	53.6	55.0	57.2	18 40.93	0.25	11.69	15 18 52.87	17.54
	Lacaille 6409	17	55.1	57.4	58.8	10.2	11.3	12.7	14.0	15.3	26.7	28.0	30.6	23 12.74	0.30	11.69	15 23 24.73	18.88
	γ Libræ	18	31.3	33.5	34.7	44.5	45.6	46.8	48.0	49.2	59.0	0.3	2.3	27 46.84	0.21	11.69	15 27 58.74	16.82
	Lacaille 6473	19	24.3	26.6	28.0	39.0	40.1	41.5	42.9	44.0	55.5	56.8	59.2	31 41.63	0.29	11.70	15 31 53.62	18.79
	κ Libræ	20	42.6	44.8	46.2	56.2	57.3	58.6	59.8	0.9	11.2	12.3	14.5	33 58.58	0.23	11.70	15 34 10.51	17.41
	Moon I	†21	51.4	53.6	54.9	5.2	6.3	7.6	8.8	10.0	20.5	21.8	24.0	37 7.65	0.23	11.70	15 37 19.58	. .
	λ Libræ	22	2.4	4.6	5.8	15.9	17.0	18.3	19.5	20.6	30.9	32.2	34.3	45 18.32	0.23	11.71	15 45 30.26	17.58
	π Scorpii	23	13.1	15.4	16.7	27.2	28.3	29.6	30.9	32.2	42.7	44.2	46.4	50 29.70	0.26	11.71	15 50 41.67	18.36
	δ Scorpii	24	53.4	55.7	57.0	7.2	8.2	9.7	10.9	12.0	22.5	23.7	25.8	52 9.65	0.25	11.71	15 52 21.61	17.95
	β Scorpii	25	7.9	10.0	11.4	21.4	22.4	23.7	24.9	26.1	36.3	37.6	39.7	57 23.76	+ 0.23	11.72	15 57 35.71	17.66
	B. A. C. 5330	26	46.0	47.5	48.8	50.0	52.5	. .	56.3	58.8	0.2	1.5	2.8	57 24.44	— 0.02	11.72	15 57 36.14	17.67
	Lacaille 6703	27	. .	. .	. .	48.4	49.8	51.2	52.8	54.1	6.8	8.4	10.9	0 57.80	— 6.10	11.72	16 1 3.42	20.68
	Lacaille 6716	28	31.4	33.8	35.5	47.8	49.0	50.6	52.2	53.6	6.2	7.6	10.2	1 50.72	+ 0.35	11.72	16 2 2.79	20.68
	B. A. C. 5394	29	10.5	12.7	14.1	24.5	25.6	26.8	28.2	29.3	39.9	41.1	43.3	5 26.81	+ 0.25	11.72	16 5 38.78	18.32
	Weisse 113	30	. .	. .	. .	23.3	24.6	26.7	41.3	44.9	46.1	47.5	48.7	7 37.89	— 26.63	11.72	16 7 22.98	17.15
	O. Arg. N. 16057	31	53.7	57.0	59.1	15.2	17.0	18.9	20.8	22.4	38.6	40.9	44.4	12 18.91	+ 0.08	11.72	16 12 30.71	8.23
	Lacaille 6818	32	. .	. .	. .	. .	. .	. .	6.9	10.0	11.5	12.9	. .	16 10.32	— 39.84	11.73	16 15 42.21	20.02
	α Scorpii	33	39.8	42.0	43.4	54.1	55.3	56.6	57.8	58.9	9.7	10.9	13.3	20 56.53	+ 0.26	11.73	16 21 8.52	18.74
	O. Arg. S. 15712	34	34.0	35.6	36.8	38.2	40.5	. .	44.7	47.3	48.5	50.0	51.4	24 12.70	— 0.01	11.73	16 24 24.42	18.03
	O. Arg. S. 15713	35	1.0	3.0	4.4	14.7	15.6	16.9	18.2	19.3	29.6	30.8	33.0	24 16.95	+ 0.24	11.73	16 24 28.92	18.02
	A Draconis	36	. .	. .	. .	39.2	42.3	49.9	30.5	37.1	40.5	44.4	47.9	29 18.72	— 12.72	11.74	16 28 17.74	1.55
	Weisse 637	†37	21.1	23.1	24.4	33.8	34.8	36.0	37.2	38.3	47.9	49.1	51.1	33 36.07	+ 0.17	11.74	16 33 47.98	15.73
	B. A. C. 5612	38	. .	. .	. .	0.0	1.2	2.7	4.0	5.3	16.5	17.8	20.4	38 8.49	— 5.51	11.74	16 38 14.72	19.67
	B. A. C. 5630	39	24.5	26.8	28.3	39.5	40.7	42.0	43.4	44.7	55.9	57.3	59.7	40 42.07	+ 0.29	11.74	16 40 54.10	19.72
	* — 4° 55′	40	44.6	46.5	47.8	57.3	58.4	59.5	0.7	1.7	11.5	12.5	14.7	43 59.56	0.18	11.75	16 44 11.49	16.32
	Weisse 859	41	53.9	55.9	57.0	6.5	7.5	8.7	10.0	11.1	20.8	21.9	24.0	45 8.85	+ 0.18	11.75	16 45 20.78	16.32
	O. Arg. S. 16100	42	. .	. .	. .	3.3	4.6	6.9	24.3	27.0	28.3	29.8	31.3	47 19.44	— 29.47	11.75	16 47 1.72	19.40
	Weisse 981	43	15.4	17.4	18.7	28.0	29.1	30.3	31.5	32.5	42.2	43.4	45.4	52 30.35	+ 0.18	11.75	16 52 42.28	— 16.25
	ε Ursæ Minoris	44	0.4	14.7	24.2	35.0	42.0	50.9	59.7	8.2	18.6	28.2	42.8	59 51.34	+ 0.16	11.76	. . . .	+ 23.59
	Weisse 46	45	. .	. .	. .	. .	. .	. .	53.1	55.5	56.8	58.1	59.5	4 56.60	— 33.57	11.76	17 4 34.79	— 16.35
	α Herculis, (1st *)	46	2.7	4.8	6.1	15.9	16.9	18.1	19.4	20.4	30.5	31.7	33.7	8 18.20	+ 0.14	11.76	17 8 30.10	14.25
	α Herculis, (2d *)	47	41.4	42.8	44.1	45.3	47.5	. .	49.6	52.2	53.4	54.8	56.1	8 18.72	— 0.11	11.76	17 8 30.37	14.25
	α Tauri	48	40.7	42.8	44.1	54.1	55.0	56.3	57.5	58.7	8.6	9.8	11.9	27 56.31	+ 0.13	12.56	4 28 9.00	15.54
	β Orionis	49	33.4	35.5	36.8	46.3	47.3	48.5	49.7	50.8	0.7	1.7	3.8	7 48.59	0.19	12.59	5 8 1.37	12.69
R.	β Tauri	50	13.8	16.0	17.6	28.3	29.5	30.8	32.2	33.5	44.4	45.8	48.0	17 30.90	+ 0.11	+12.55	5 17 43.56	— 16.93

21. Steady.
37. Observed the southward and following.

July 14, . . . n. = — 0.15 s.
14–15, 4h. to 8h. — 0.15.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 14, 10.6	+ 11.50	+ 0.040	+ 0.170
5.5	+ 12.61	+ 0.050	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 14	ε Orionis	1	52. 3	54. 3	55. 5	4. 8	5. 9	7. 3	8. 5	9. 6	19. 1	20. 3	22. 3	29 7. 26	+ 0. 17	+12. 56	5 29 19. 99	— 13. 43
R.	α Orionis	†2	22. 1	24. 0	25. 4	34. 8	. .	37. 2	38. 5	39. 5	49. 0	50. 4	52. 4	47 37. 33	0. 02	12. 57	5 47 49. 92	14. 37
Y.	α Canis Majoris . .	†3	41. 4	43. 5	44. 9	54. 9	55. 9	57. 1	58. 4	59. 4	9. 8	10. 8	12. 8	38 57. 17	0. 22	12. 67	6 39 10. 06	11. 36
15	Sun I	4	18. 1	20. 0	21. 4	31. 7	32. 6	33. 9	35. 3	36. 4	46. 8	48. 2	50. 4	39 34. 07	0. 12	12. 73	7 39 46. 92	. .
	Sun II	5	33. 9	36. 1	37. 4	47. 6	48. 7	50. 0	51. 3	52. 5	2. 8	4. 0	6. 2	41 50. 05	0. 12	12. 73	7 42 2. 90	. .
	δ Scorpii	6	52. 4	54. 5	55. 7	5. 9	7. 0	8. 3	9. 6	10. 8	21. 2	22. 5	24. 7	52 8. 42	0. 29	12. 89	15 52 21. 60	17. 94
	β Scorpii	7	6. 7	8. 9	10. 2	20. 2	21. 3	22. 5	23. 7	24. 9	35. 1	36. 3	38. 6	57 22. 58	0. 27	12. 90	15 57 35. 75	17. 65
	B. A. C. 5330 . .	8	44. 9	46. 3	47. 6	48. 9	51. 3	. .	55. 0	57. 6	58. 9	0. 2	1. 6	57 23. 23	0. 02	12. 90	15 57 36. 15	17. 66
	O. Arg. S. 15401 .	9	27. 9	30. 0	31. 3	41. 6	42. 7	44. 0	45. 3	46. 4	57. 2	58. 3	0. 5	5 44. 11	0. 29	12. 90	16 5 57. 30	18. 22
	χ Ophiuchi . . .	10	43. 5	45. 7	47. 0	56. 9	58. 0	59. 2	0. 5	1. 7	11. 8	13. 0	15. 1	18 59. 31	+ 0. 26	12. 92	16 19 12. 89	17. 69
	φ Ophiuchi . . .	11	. .	. .	. .	9. 7	10. 7	11. 9	13. 2	14. 2	24. 5	25. 6	27. 7	23 17. 19	— 4. 91	12. 93	16 23 25. 21	17. 50
	(* 67) W. . . .	12	. .	. .	. .	45. 8	46. 8	48. 0	49. 2	50. 3	0. 0	1. 2	3. 2	27 53. 06	— 4. 78	12. 94	16 28 1. 22	16. 15
	Weisse 637 . . .	13	20. 1	22. 0	23. 4	32. 8	33. 9	35. 0	36. 1	37. 1	46. 7	47. 9	49. 7	33 34. 97	+ 0. 17	12. 94	16 33 48. 08	15. 72
	Moon I	14	10. 1	12. 4	13. 7	24. 0	25. 2	26. 4	27. 7	28. 9	39. 5	40. 8	43. 0	36 26. 52	0. 27	12. 95	16 36 39. 74	. .
	O. Arg. S. 15977 .	15	16. 3	18. 5	19. 8	29. 7	30. 7	31. 9	33. 2	34. 3	44. 4	45. 5	47. 7	40 32. 00	+ 0. 25	12. 95	16 40 45. 20	17. 58
	B. A. C. 5633 . .	16	. .	. .	. .	. .	. .	. .	51. 8	54. 5	55. 9	57. 4	58. 7	41 55. 66	— 36. 64	12. 95	16 41 31. 97	18. 67
	Weisse 845 . . .	17	9. 8	11. 8	13. 0	22. 8	23. 8	25. 0	26. 1	27. 2	37. 0	38. 2	40. 2	44 24. 99	+ 0. 21	12. 96	16 44 38. 16	16. 73
	B. A. C. 5678 . .	18	. .	. .	. .	. .	. .	. .	51. 7	54. 5	56. 0	57. 4	58. 9	46 55. 70	— 39. 00	12. 96	16 46 29. 66	19. 74
	Weisse 958 . . .	19	43. 8	45. 8	47. 1	56. 5	. .	58. 6	59. 9	1. 0	10. 6	11. 8	13. 9	50 58. 90	+ 0. 06	12. 97	16 51 11. 93	16. 25
	B. A. C. 5730 . .	20	48. 0	50. 2	51. 5	1. 9	2. 9	4. 4	5. 6	6. 8	17. 3	18. 6	20. 9	55 4. 37	0. 30	12. 97	16 55 17. 64	18. 72
	B. A. C. 5768 . .	21	40. 3	42. 6	44. 1	55. 0	56. 1	57. 4	58. 8	0. 0	11. 2	12. 7	14. 9	59 57. 55	0. 34	12,98	17 0 10. 87	19. 68
	η Ophiuchi . . .	22	10. 0	12. 2	13. 4	23. 2	24. 2	25. 5	26. 7	27. 8	37. 8	39. 0	41. 0	2 25. 53	0. 25	12. 98	17 2 38. 76	17. 64
	* — 33° 35′ . .	23	36. 6	38. 9	40. 4	51. 8	53. 0	54. 4	55. 9	57. 0	8. 9	10. 2	12. 6	5 54. 52	0. 37	12. 99	17 6 7. 88	20. 29
	B. A. C. 5807 . .	24	27. 7	30. 0	31. 5	43. 0	44. 2	45. 5	47. 0	48. 1	59. 8	1. 2	3. 7	6 45. 61	+ 0. 37	12. 99	17 6 58. 97	20. 30
	O. Arg. S. 16563 .	25	. .	. .	. .	. .	. .	. .	37. 1	40. 0	41. 4	42. 3	44. 3	9 41. 12	— 37. 27	12. 99	17 9 16. 84	19. 16
	θ Ophiuchi . . .	26	14. 0	16. 3	17. 6	28. 1	29. 1	30. 5	31. 8	33. 0	43. 6	44. 9	47. 1	13 30. 55	+ 0. 31	12. 99	17 13 43. 85	18. 94
	B. A. C. 5868 . .	27	22. 2	24. 4	25. 7	36. 1	37. 1	38. 5	39. 8	40. 9	51. 5	52. 9	55. 0	16 38. 55	0. 30	13. 00	17 16 51. 85	18. 86
	b Ophiuchi . . .	28	38. 6	40. 7	42. 1	52. 3	53. 5	54. 9	56. 2	57. 3	7. 9	9. 1	11. 4	17 54. 91	+ 0. 30	13. 00	17 18 8. 21	18. 86
	O. Arg. S. 16816 .	29	. .	. .	. .	13. 1	14. 5	16. 5	32. 8	35. 3	36. 6	38. 0	39. 4	20 28. 28	— 27. 56	13. 00	17 20 13. 72	18. 42
	* — 31° 43′ . .	30	45. 6	48. 0	49. 5	0. 6	1. 8	3. 3	4. 7	5. 9	17. 0	18. 4	20. 9	23 3. 25	+ 0. 36	13. 01	17 23 16. 62	20. 07
	* — 38° 33′ . .	31	. .	. .	. .	8. 0	9. 3	10. 8	12. 3	13. 8	. .	. .	. .	26 10. 84	0. 48	13. 01	17 26 24. 33	21. 36
	B. A. C. 5932 . .	32	43. 3	45. 8	47. 4	59. 5	0. 7	2. 3	3. 7	5. 1	17. 5	19. 1	21. 7	27 2. 37	0. 42	13. 01	17 27 15. 80	21. 36
	B. A. C. 5960 . .	†33	43. 0	45. 3	46. 6	57. 9	59. 0	0. 4	1. 8	3. 0	14. 5	15. 9	18. 2	31 0. 51	0. 36	13. 02	17 31 13. 89	20. 18
	B. A. C. 5964 . .	34	40. 2	42. 7	44. 0	55. 2	56. 4	57. 8	59. 4	0. 6	12. 0	13. 3	15. 7	31 57. 94	+ 0. 36	13. 02	17 32 11. 32	20. 19
	B. A. C. 5980 . .	35	. .	. .	. .	29. 8	31. 1	32. 5	33. 7	35. 0	46. 5	47. 8	50. 2	34 38. 32	— 5. 52	13. 02	17 34 45. 82	20. 27
	B. A. C. 6011 . .	36	56. 3	58. 8	0. 1	11. 3	12. 6	14. 0	15. 5	16. 7	28. 2	29. 4	31. 9	39 14. 07	+ 0. 36	13. 03	17 39 27. 46	20. 31
	95 Herculis, (1st *) .	37	17. 9	20. 1	21. 4	. .	. .	. .	. .	. .	46. 8	48. 0	50. 1	55 34. 05	0. 04	13. 05	17 55 47. 14	13. 54
	95 Herculis, (2d *) .	38	. .	. .	. .	31. 2	32. 1	33. 4	34. 7	35. 9	. .	. .	. .	55 34. 46	0. 13	13. 05	17 55 47. 64	13. 54
	70 Ophiuchi, (1st *) .	39	10. 2	12. 3	13. 5	. .	. .	. .	. .	. .	37. 0	38. 3	40. 1	58 25. 23	0. 12	13. 06	17 58 38. 41	15. 72
	70 Ophiuchi, (2d *) .	40	. .	. .	. .	23. 5	24. 5	25. 7	26. 9	27. 8	. .	. .	. .	58 25. 68	0. 21	13. 06	17 58 38. 95	15. 72
	Weisse 18 . . .	41	13. 3	15. 2	16. 6	26. 1	27. 2	28. 4	29. 7	39. 7	40. 3	41. 4	43. 3	2 28. 38	+ 0. 16	13. 06	18 2 41. 60	— 15. 72
	δ Ursæ Minoris . .	42	54. 0	27. 0	50. 0	30. 0	46. 3	7. 5	28. 0	44. 5	28. 0	48. 0	22. 0	16 7. 75	— 1. 34	13. 08	. . . .	+ 70. 84
	1 Aquilæ	†43	23. 9	25. 9	27. 2	36. 8	37. 7	38. 9	40. 0	41. 1	50. 9	52. 0	54. 1	27 38. 95	+ 0. 21	13. 10	18 27 52. 26	— 16. 98
	O. Arg. S. 18505 .	44	35. 4	37. 1	38. 5	39. 9	42. 2	. .	49. 0	51. 6	53. 1	54. 5	55. 9	31 15. 72	0. 05	13. 10	18 31 28. 87	19. 22
	O. A. S. 18506, (1st *)	45	2. 5	4. 5	5. 8	. .	. .	. .	. .	. .	32. 1	33. 4	35. 5	31 18. 97	0. 27	13. 10	18 31 32. 34	19. 22
	O. A. S. 18506, (2d *)	46	. .	. .	. .	16. 8	17. 9	19. 2	20. 6	21. 8	. .	. .	. .	31 19. 26	+ 0. 36	13. 10	18 31 32. 72	— 19. 22
	O. Arg. N. 18534 .	47	40. 5	51. 6	55. 5	26. 5	30. 0	33. 5	37. 5	40. 3	12. 6	16. 7	23. 7	36 33. 49	— 0. 22	13. 11	18 36 46. 38	+ 0. 54
	* + 72° 15′ .	48	. .	. .	. .	2. 7	6. 1	9. 8	13. 5	17. 3	. .	. .	. .	38 9. 88	— 0. 06	13. 11	18 38 22. 93	+ 0. 46
	Dorpat 2391 . .	49	57. 7	59. 8	1. 2	10. 7	11. 8	12. 9	14. 2	15. 2	24. 7	26. 0	28. 0	41 12. 93	+ 0. 20	13. 11	18 41 26. 24	— 16. 76
	σ Sagittarii . . .	50	24. 2	26. 4	27. 7	38. 5	39. 5	40. 8	42. 1	43. 3	54. 2	55. 5	57. 6	46 40. 89	+ 0. 31	+13. 12	18 46 54. 32	— 19. 32

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 15, 17.9	+ 13. 05	+ 0. 080	+ 0. 170

2–3. Unsteady.
33. Many stars in the field.
43. Blurred.

		s.
July 15, 15h. to 20h.	n. =	— 0. 25.
15–16, 5h. to 8h.		— 0. 15.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 15	Victoria	1	47.5	49.5	50.9	. .	. .	. .	. .	. .	14.6	15.8	17.8	56 2.68	+ 0.17	+13.13	18 56 15.98	. .
Y.	O. Arg. S. 19341 .	2	49.6	51.9	53.3	4.3	5.4	6.7	8.0	9.3	20.3	21.6	23.8	8 6.75	0.33	13.15	19 8 20.23	— 19.61
	ω Aquilæ	3	1.2	3.0	4.2	14.0	15.0	16.2	17.4	18.6	28.4	29.6	31.8	11 16.31	0.12	13.15	19 11 29.58	14.94
	Eunomia . . .	4	3.6	5.7	7.1	17.4	18.4	19.8	21.0	22.2	32.7	33.9	36.2	23 19.82	0.29	13.17	19 23 33.28	. .
	O. Arg. S. 19674 .	5	50.1	52.4	53.6	4.0	5.1	6.4	7.7	8.7	19.2	20.4	22.5	24 6.37	0.29	13.17	19 24 19.83	18.69
	κ Aquilæ	6	9.8	11.8	13.0	22.6	23.7	24.9	26.0	27.2	36.2	37.9	39.9	29 24.86	0.21	13.18	19 29 38.25	16.86
	β Orionis	7	32.4	34.4	35.8	45.5	46.4	47.7	48.9	49.9	59.5	0.7	2.8	7 47.64	0.19	13.57	5 8 1.40	12.71
R.	β Tauri	†8	13.2	15.1	16.4	27.5	28.5	29.9	31.2	32.5	43.5	44.9	47.2	17 29.99	0.11	13.52	5 17 43.62	16.96
	α Orionis	9	21.2	23.1	24.4	33.9	35.1	36.1	37.4	38.5	48.2	49.2	51.5	47 36.23	0.15	13.54	5 47 49.92	14.39
16	Sun I	10	19.4	21.4	22.8	33.0	33.9	35.3	36.4	37.5	48.0	49.2	51.4	43 35.30	0.12	13.61	7 43 49.03	. .
	Sun II	11	35.0	37.3	38.6	48.8	49.9	51.3	52.5	53.5	3.9	5.2	7.3	45 51.21	+ 0.12	13.61	7 46 4.94	. .
	b Ophiuchi . . .	12	. .	. .	. .	. .	. .	. .	27.0	29.7	31.0	32.6	33.9	18 30.84	— 36.54	13.95	17 18 8.25	18.85
	c² Ophiuchi . . .	13	41.0	43.0	44.5	54.8	55.9	57.3	58.5	59.6	10.2	11.4	13.7	22 57.26	+ 0.30	13.96	17 23 11.52	18.85
	α Ophiuchi . . .	14	11.2	13.2	14.5	24.3	25.3	26.5	27.7	28.8	38.7	40.0	42.0	28 26.56	0.12	13.96	17 28 40.64	14.53
	ο Serpentis . . .	15	20.8	22.7	24.1	33.8	34.7	36.0	37 3	38.4	48.3	49.4	51.5	33 36.09	0.23	13.96	17 33 50.28	17.43
	Moon I	16	20.0	22.0	23.4	34.0	35.0	36.5	37.8	38.9	49.5	50.8	53.1	38 36.45	+ 0.27	13.96	17 38 50.68	. .
	μ Herculis . . .	17	. .	. .	. .	. .	. .	. .	31.6	34.0	35.6	37.1	38.7	41 35.40	— 37.98	13.97	17 41 11.39	12.60
	4 Sagittarii . . .	18	3.1	5.2	6.5	17.0	18.1	19.5	20.8	21.9	32.5	33.8	36.0	51 19.49	+ 0.30	13.97	17 51 33.76	18.94
	95 Herculis, (1st *) .	19	54.4	55.8	57.1	58.5	1.0	. .	5.5	8.1	9.5	10.9	12.3	55 33.31	— 0.17	13.97	17 55 47.11	13.54
	95 Herculis, (2d *) .	20	17.6	19.7	21.0	31.3	32.3	33.6	34.7	36.0	46.3	47.6	49.8	55 33.63	+ 0.08	13.97	17 55 47.68	13.54
	μ Sagittarii . . .	21	12.0	13.9	15.3	25.4	26.5	27.8	29.0	30.3	40.3	42.0	44.2	5 27.88	0.28	13.98	18 5 42.14	18.58
	δ Ursæ Minoris . .	22	54.0	27.5	49.0	27.5	45.5	6.0	26.0	44.0	25.5	45.0	20.5	16 6.41	1.34	13.99	. . . .	. .
	O. Arg. S. 18577 .	23	28.6	30.6	31.8	41.9	42.9	44.4	45.5	46.7	56.8	58.0	0.2	34 44.31	+ 0.27	14.00	18 34 58.58	18.36
	O. Arg. S. 18584 .	24	. .	. .	. .	20.3	21.5	23.6	39.5	42.1	43.4	44.8	46.3	35 35.16	— 27.30	14.00	18 35 21.86	18.35
	56 Aquilæ, (1st *) .	25	. .	. .	. .	14.5	15.6	16.8	17.9	19.0	. .	. .	. .	39 16.76	+ 0.22	14.00	18 39 30.98	16.18
	56 Aquilæ, (2d *) .	26	. .	. .	. .	29.5	30.6	32.7	47.7	50.3	51.5	52.8	54.2	39 43.66	— 25.86	14.00	18 39 31.80	16.18
	σ Sagittarii . . .	27	23.4	25.4	26.9	37.6	38.6	40.0	41.4	42.4	53.1	54.5	56.7	46 40.00	+ 0.32	14.01	18 46 54.33	19.33
	Victoria	28	59.3	1.1	2.5	12.2	13.3	14.5	15.6	16.7	26.0	27.4	29.5	55 14.37	+ 0.21	14.01	18 55 28.59	. .
	Dorpat 2447 . .	29	. .	. .	. .	20.0	21.1	22.3	23.5	24.5	34.1	35.4	37.4	59 27.29	— 4.78	14.01	18 59 36.52	16.26
	Dorpat 2492 . .	30	11.9	13.8	15.1	24.5	25.6	26.8	28.0	29.1	38.7	39.8	41.9	11 26.84	+ 0.17	14.02	19 11 41.03	16.02
	Eunomia . . .	31	. .	. .	. .	12.9	14.1	15.3	16.6	17.7	28.1	29.3	31.6	22 20.70	— 5.09	14.03	19 22 29.64	18.70
	κ Aquilæ	32	9.0	11.1	12.3	21.9	22.8	24.0	25.2	26.3	36.0	37.2	39.3	29 24.10	+ 0.20	14.03	19 29 38.33	16.86
17	η Serpentis . . .	33	49.9	52.2	53.2	2.5	3.5	4.8	5.9	7.0	16.6	17.9	19.9	14 4.85	0.18	15.08	18 14 20.11	16.18
	1 Aquilæ	34	21.8	23.9	25.1	34.7	35.6	36.9	38.0	39.1	49.0	50.1	52.2	27 36.95	0.21	15.10	18 27 52.26	16.99
	φ Sagittarii . . .	35	41.8	43.9	45.4	56.0	57.2	58.6	59.8	1.0	11.9	13.2	15.5	36 58.57	0.32	15.11	18 37 14.00	19.45
	29 Sagittarii . . .	36	8.8	10.8	12.2	22.4	23.4	24.7	25.9	27.1	37.3	38.6	40.8	41 24.73	0.27	15.11	18 41 40.11	18.50
	Moon I	37	5.8	7.8	9.2	19.5	20.7	22.1	23.4	24.5	35.2	36.5	38.6	42 22.12	0.27	15.11	18 42 37.50	. .
	σ Sagittarii . . .	38	22.3	24.3	25.7	36.5	37.5	38.8	40.2	41.4	52.0	53.4	55.6	46 38.88	0.31	15.12	18 46 54.31	19.33
	ξ² Sagittarii . . .	39	9.8	12.0	13.1	23.6	24.6	25.8	27.1	28.2	38.6	39.8	42.0	49 25.87	0.28	15.12	18 49 41.27	18.60
	π Sagittarii . . .	40	13.3	15.3	16.6	26.9	27.9	29.3	30.5	31.6	42.0	43.3	45.8	1 29.32	+ 0.28	15.13	19 1 44,73	18.56
Y.	α Orionis	†41	. .	. .	. .	54.3	55.5	57.6	13.0	15.3	16.6	17.9	19.2	48 8.68	— 26.10	7.45	. . . .	14.43
18	ω Aquilæ	42	7.1	9.0	10.3	20.2	21.2	22.5	23.6	24.6	34.4	35.6	37.8	11 22.39	+ 0.13	7.07	19 11 29.59	14.96
	κ Aquilæ . . .	43	16.0	18.0	19.2	28.7	29.8	31.1	32.2	33.3	43.0	44.2	46.2	29 31.06	0.22	7.06	19 29 38.34	16.88
	γ Aquilæ	†44	28.6	30.7	32.0	41.7	42.7	43.9	45.2	46.3	56.0	57.2	59.4	39 43.97	0.14	7.05	19 39 51,16	15.14
	Moon I	45	5.0	7.2	8.5	18.6	19.8	21.0	22.3	23.5	33.8	35.0	37.2	46 21.09	0.27	7.05	19 46 28.41	. .
	Moon II	†46	29.1	31.3	32.7	42.9	44.0	45.2	46.4	47.6	58.0	59.0	1.5	48 45.25	+ 0.27	7.05	19 48 52,60	. .
	Dorpat 2613 (1st *)	47	17.4	18.8	20.0	21.3	23.4	. .	24.6	27.2	28.4	29.6	30.8	54 54.15	— 0.10	7.05	19 55 1.10	15,16
	Dorpat 2613 (2d *)	48	38.9	40.8	42.1	51.7	52.7	53.9	55.0	56.1	5.9	7.2	9.4	54 53.97	+ 0.14	7,05	19 55 1,16	— 15.16
	λ Ursæ Minoris . .	49	. .	. .	. .	42.0	33.5	36.5	37.5	33.0	. .	. .	. .	0 36.50	— 2.22	+ 7,04	. . . . .	+ 192.26

8. Faint.
41. Faint.
44. Unsteady.
46. Limb imperfect; correction for defective illumination = + 0.03 s.

			s.
July 16,	5h. to 8h. n.	=	— 0.15.
	17h. to 19h.		0.25.
17,	. . . .		0.25.
18,	. . . .		0.27.
18–19,	5h. to 10h.		— 0.17.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 16, 13.9	+ 13.83	+ 0.036	+ 0.170
17, 18.5	15.10	+ 0.055	0.170
18, 19.8	+ 7.05	— 0.029	+ 0.180

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 18	α² Capricorni	1	11.7	13.7	15.0	24.8	25.8	27.1	28.2	29.3	39.2	40.4	42.4	10 27.05	+ 0.25	+ 7.04	20 10 34.34	— 17.37
Y.	Lalande 38208	2	0.9	2.9	4.3	13.8	14.9	16.1	17.2	18.3	27.9	29.1	31.3	16 16.06	0.18	7.04	20 16 23.28	16.19
	ρ Capricorni	3	47.0	49.2	50.4	0.5	1.5	2.8	4.1	5.2	15.2	16.6	18.7	21 2.84	0.28	7.03	20 21 10.15	17.79
R.	β Orionis	4	39.4	41.3	42.6	52.2	53.4	54.5	55.7	56.7	6.5	7.7	9.7	7 54.52	0.21	6 73	5 8 1.46	12.78
	β Tauri	5	20.0	22.0	23.5	34.2	35.4	36.7	38.1	39.3	50.3	51.6	54.0	17 36.83	0.11	6.73	5 17 43.67	17.04
	α Orionis	6	28.0	30.1	31.4	40.9	41.9	43.0	44.0	45.3	55.1	56.2	58.3	47 43.11	0.16	6.71	5 47 49.98	14.45
19	Sun I	7	29.6	31.7	33.0	43.3	44.4	45.6	46.8	48.0	58.3	59.5	1.5	55 45.61	0.13	6.65	7 55 52.39	. .
	Sun II	8	44.9	47.0	48.5	58.5	59.7	1.0	2.2	3.3	13.6	14.9	17.1	58 0.97	0.13	6.65	7 58 7.75	. .
	α Hydræ	9	33.6	35.6	36.9	46.5	47.6	48.7	49.9	50.9	0.5	1.9	3.9	20 48.73	0.21	6.61	9 20 55.55	13.03
	α² Capricorni	10	12.4	14.5	15.8	25.5	26.6	27.8	29.0	30.1	40.0	41.1	43.3	10 27.83	0.25	6.29	20 10 34.37	17.38
	ρ Capricorni	†11	25.7	27.1	28.4	29.6	32.1	47.7	49.8	51.2	16.0	17.3	19.4	20 47.66	16.13	6.29	20 21 10.08	17.81
	α Orionis	12	28.4	30.3	31.6	41.2	42.2	43.5	44.7	45.7	55.4	56.6	58.7	47 43.48	0.15	6.42	5 47 50.05	14.47
	α Canis Majoris	13	47.9	50.0	51.2	1.0	2.1	3.4	4.5	5.6	15.8	17.0	19.3	39 3.44	0.25	6.41	6 39 10.10	11.43
20	Sun I	14	9.8	11.9	13.2	43.3	44.4	45.8	47.0	48.1	58.5	59.6	1.9	59 45.77	0.11	6.41	7 59 52.29	. .
Y.	Sun II	15	. .	47.0	48.4	58.4	59.6	0.8	2.0	3.3	13.5	14.8	. .	2 0.87	0.12	6.41	8 2 7.40	. .
	α Leonis	16	47.0	49.2	50.5	0.2	1.2	2.4	3.6	4.7	14.6	15.8	17.8	1 2.45	0.14	6.40	10 1 8.99	14.22
	γ Leonis	17	7.1	9.2	10.6	20.6	21.7	23.0	24.2	25.3	35.7	37.0	39.1	12 23.05	0.11	6.40	10 12 29.56	14.68
	B. A. C. 7413	18	53.3	55.5	56.9	7.2	8.3	9.6	10.9	12.0	22.6	23.9	26.1	15 9.66	0.29	6.37	21 15 16.32	17.83
	O. Arg. S. 21374	19	39.3	41.6	42.9	53.5	54.6	55.8	57.0	. .	8.9	10.2	12.3	17 55.61	0.54	6.37	21 18 2 52	17.90
	β Aquarii	20	6.0	8.0	9.2	18.7	19.7	21.0	22.2	. .	32.7	34.0	36.2	24 20.77	+ 0.43	6.37	21 24 27.57	16.44
	β Cephei	21	9.0	14.6	18.5	46.2	48.9	51.8	55.4	58.6	27.0	30.5	36.4	26 52.45	— 0.08	6.37	21 26 58.74	8.38
	ξ Aquarii	22	12.7	14.7	15.9	25.5	26.5	27.7	29.0	30.0	39.7	41.0	43.0	30 27.79	+ 0.22	6.37	21 30 34.38	16.58
	O. Arg. S. 21588	23	15.9	18.1	19.4	29.9	30.9	32.2	33.5	34.7	45.3	46.7	48.9	35 32.32	+ 0.30	6.37	21 35 38.99	17.69
	11 Cephei	24	8.5	14.6	18.1	47.4	50.4	53.8	57.6	0.9	29.7	33.4	39.1	39 53.95	— 0.08	6.37	21 40 0.24	8.86
	O. Arg. S. 21710	25	10.3	12.3	13.7	23.8	24.8	26.0	27.3	28.5	38.7	40.0	42.1	45 26.14	+ 0.27	6.37	21 45 32.78	17.19
	Moon II	26	42.8	44.9	46.1	56.1	57.1	58.3	59.5	0.7	10.6	11.8	14.0	51 58.35	0.21	6.37	21 52 4.93	. .
	α Aquarii	27	30.0	32.0	33.3	42.5	43.5	44.9	46.0	47.0	56.8	58.0	0.0	58 44.91	0.18	6.37	21 58 51.46	15.97
	B. A. C. 7702	28	6.8	9.2	10.5	22.4	23.6	25.0	26.4	27.6	39.3	40.7	43.2	0 24.97	0.38	6.37	22 0 31.72	18.11
	Lacaille 9047	29	34.1	36.7	38.4	50.5	51.7	52.3	54.9	56.1	8.5	10.0	12.8	3 52.36	0.41	6.37	22 3 59.14	18.43
	θ Aquarii	30	21.2	23.2	24.5	34.2	35.2	36.4	37.6	38.5	48.4	49.4	51.5	9 36.37	0.22	6.37	22 9 42.96	16.32
	γ Aquarii	31	19.9	21.8	23.1	32.5	33.7	34.8	36.0	37.0	46.6	47.7	50.1	14 34.84	0.19	6.37	22 14 41.40	15.96
	π Aquarii	32	1.8	3.8	4.9	14.2	15.3	16.5	17.7	18.7	28.4	29.8	31.8	18 16.63	0.18	6.37	22 18 23.18	15.83
R.	α Orionis	33	28.3	30.2	31.6	40.1	42.2	43.4	44.7	45.7	55.4	56.5	58.6	47 43.34	0.15	6.60	. . . . .	14.49
21	Sun I	34	29.1	31.4	32.5	42.6	43.7	45.0	46.3	47.5	57.5	59.1	1.3	3 45.09	0.11	6.66	8 3 51.86	. .
	Sun II	35	44.4	46.3	47.6	57.9	58.9	0.1	1.5	2.6	12.9	14.1	16.2	6 0.23	0.11	6.66	8 6 7.00	. .
	λ Aquarii	36	12.4	14.5	15.7	25.5	26.4	27.5	28.9	30.0	39.5	40.7	42.9	45 27.64	0.21	6.72	22 45 34.57	16.03
	δ Aquarii	37	6.9	8.8	10.2	20.1	21.1	22.3	23.4	24.5	34.7	35.9	38.0	47 22.35	0.25	6.72	22 47 29.32	16.28
	Moon II	38	23.3	25.4	26.6	36.3	37.5	38.7	39.9	41.0	50.8	52.0	54.1	50 38.69	0.19	6.72	22 50 45.60	. .
	γ Piscium	39	. .	50.3	51.6	1.3	2.3	3.5	4.7	5.8	15.3	16.4	. .	10 3.47	0.18	6.71	23 10 10.36	15.85
	κ Piscium	†40	39.1	41.1	42.2	52.0	53.0	54.0	55.1	56.2	6.2	7.2	9.3	19 54.13	0.18	6.70	23 20 1.01	15.65
Y.	α Orionis	†41	28.3	30.3	31.5	41.2	42.2	43.4	44.6	45.7	55.3	56.6	58.6	47 43.43	0.15	6.54	5 47 50.12	14.51
22	Sun I	42	28.1	30.2	31.6	41.8	42.9	44.1	45.4	46.6	56.8	58.0	0.2	7 44.15	0.11	6.50	8 7 50.76	. .
	Sun II	43	43.0	45.1	46.5	56.7	57.7	58.8	0.1	1.3	11.6	12.8	15.0	9 58.97	0.11	6.50	8 10 5.58	. .
	κ Piscium	†44	39.8	41.7	43.0	52.3	53.4	54.4	55.7	56.7	6.7	7.7	9.7	19 54.65	+ 0.18	6.24	23 20 1.07	15.67
	ι Piscium	45	. .	. .	. .	. .	. .	54.3	55.3	56.4	6.1	7.4	9.3	33 1.47	— 7.06	6.23	23 33 0.64	15.70
	Moon II	46	32.3	34.5	35.7	45.5	46.5	47.7	49.0	50.2	59.7	1.0	3.2	47 47.75	+ 0.17	6.23	23 47 54.15	. .
	ω Piscium	47	1.6	3.4	4.8	14.4	15.4	16.7	17.9	19.0	28.7	29.8	31.8	52 16.68	0.16	6.23	23 52 23.07	15.57
	α Andromedæ	48	2.0	4.2	5.8	16.4	17.5	18.9	20.2	21.4	32.4	33.7	36.0	1 18.95	0.09	6.23	0 1 25.27	15.86
	γ Pegasi	49	55.5	57.5	59.0	8.7	9.7	11.0	12.3	13.4	23.3	24.6	26.6	6 11.05	0.13	6.22	0 6 17.40	15.62
	d Piscium	50	17.6	19.7	21.2	30.5	31.6	32.9	34.0	35.1	44.9	46.0	48.1	13 32.87	+ 0.13	+ 6.22	0 13 39.22	— 15.50

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 19, 11.0	+ 6.56	— 0,029	+ 0.180
20, 15.0	6.39	— 0.003	. .
21, 23.1	6.71	+ 0.003	. .
22, 20.8	+ 6.28	— 0.017	+ 0.180

11. Faint; through clouds.
40. Faint.
41. Through haze.
44. Through thick haze.

s.
July 19, 5h. to 10h. n. = — 0.17.
20h. to 21h. 0.27.
19–20, 5h. to 23h. 0.22.
21, . . . — 0.22.
July 21. Observations made through clouds and haze.
July 22. Stars unsteady.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 22	Polaris	†1	47.0	41.0	25.0	18.0	51.0	. .	. .	. .	. .	. .	. .	47 36.40	+22 21.84	+ 6.21	. . . .	— 119.02
R.	α Orionis	†2	29.0	30.7	32.2	41.5	42.6	43.8	45.2	46.2	55.8	56.9	59.0	47 43.90	0.15	6.09	. . . .	14.54
23	Sun I	3	27.0	29.1	30.4	40.4	41.5	42.9	44.3	45.3	55.3	56.8	59.1	11 42.92	0.11	6.08	8 11 49.11	. .
	Sun II	4	41.8	43.6	45.1	55.3	56.3	57.5	58.7	59.8	10.2	11.5	13.7	13 57.59	0.11	6.08	8 14 3.78	. .
	d Piscium	†5	18.0	20.0	21.3	30.8	31.9	33.2	34.4	35.4	45.1	46.2	48.4	13 33.15	+ 0.15	5.98	0 13 39.28	15.53
	44 Piscium	6	. .	. .	. .	20.9	21.9	22.9	24.1	25.0	34.7	35.9	38.0	18 27.92	— 4.79	5.98	0 18 29.11	15.41
	12 Ceti	7	47.7	50.0	51.1	0.5	1.4	2.6	3.9	5.0	14.8	16.0	18.0	23 2.82	+ 0.20	5.98	0 23 9.00	15.27
	β Ceti	†8	26.6	28.6	30.0	40.0	40.9	42.2	43.4	44.5	55.0	56.0	58.1	36 42.30	+ 0.26	5.98	0 36 48.54	14.90
	δ Piscium	9	. .	21.7	22.9	32.2	33.2	34.6	35.5	36.8	46.3	47.9	49.9	41 36.10	— 1.34	5.98	0 41 40.74	15.46
	Moon II	10	46.5	48.4	49.7	59.7	0.7	1.9	3.1	4.2	14.2	15.3	17.4	44 1.92	+ 0.15	5.98	0 44 8.05	. .
	ε Piscium	11	35.0	37.0	38.2	47.8	48.9	50.1	51.3	52.3	2.0	3.0	5.1	55 50.06	0.15	5.98	0 55 56.19	15.43
	e Piscium	12	3.6	5.8	6.8	16.4	17.4	18.8	19.9	20.9	30.6	31.8	33.9	1 18.72	0.16	5.98	1 1 24.86	15.34
	Polaris	†13	. .	. .	. .	29.5	9.0	58.0	45.0	24.0	. .	. .	. .	9 57.10	0.32	5.98	. . . .	— 119.83
Y. 25	ε Ursæ Minoris . .	14	5.0	19.5	28.8	39.2	47.2	55.4	4.5	12.4	23.7	32.4	47.4	59 55.95	0.75	5.10	17 0 1.80	+ 25.00
	O. Arg. N. 16862 .	15	30.6	33.7	35.8	50.9	52.3	54.2	56.2	57.7	13.0	15.0	18.4	4 54.35	0.19	5.10	17 4 59.64	— 8.46
	α Herculis (1st *) .	16	9.3	11.4	12.7	22.5	23.5	24.7	25.9	27.0	37.0	38.3	40.3	8 24.78	+ 0.17	5.10	17 8 30.05	14.18
	α Herculis (2d *) .	17	47.9	49.4	50.6	51.7	54.2	. .	56.1	58.7	59.9	1.3	2.6	8 25.24	— 0.08	5.10	17 8 30.26	14.18
	ξ Ophiuchi . . .	18	. .	. .	. .	2.5	3.9	6.0	22.3	24.9	26.0	27.5	29.0	13 17.76	27.60	5.10	17 12 55.26	18.35
	Weisse 254 . . .	19	. .	. .	. .	34.9	36.0	38.2	53.4	55.8	57.0	58.3	59.7	15 49.16	— 25.97	5.10	17 15 28.29	16.53
	O. Arg. S. 16816 .	20	52.3	54.3	55.7	5.7	6.9	8.2	9.4	10.5	20.9	22.3	24.2	20 8.22	+ 0.24	5.10	17 20 13.56	18.37
	B. A. C. 5914 . .	21	52.3	54.6	56.0	7.4	8.6	9.9	11.5	12.6	24.1	25.6	28.0	24 9.92	0.29	5.10	17 24 15.31	20.24
	O. Arg. S. 16990 .	22	50.8	53.1	54.5	5.3	6.5	7.8	9.0	10.4	21.4	22.7	24.9	29 7.85	0.26	5.10	17 29 13.21	19.51
	B. A. C. 5983 . .	23	28.7	31.0	32.4	43.3	44.6	45.9	47.3	48.5	59.6	1.0	3.3	34 45.96	0.27	5.10	17 34 51.33	19.82
	O. Arg. S. 17209 .	24	7.2	9.5	10.7	20.9	21.9	23.3	24.5	25.6	36.0	37.1	39.3	39 23.27	0.24	5.10	17 39 28.61	18.45
	* — 28° 34′ . .	25	8.4	10.6	12.0	23.0	24.1	25.4	26.7	28.0	38.9	40.3	42.5	42 25.45	0.26	5.10	17 42 30.81	19.61
	* — 28° 32′ . .	26	57.8	59.9	1.5	12.3	13.4	14.9	16.2	17.2	28.2	29.5	31.8	43 14.79	0.26	5.10	17 43 20.15	19.61
	B. A. C. 6057 . .	27	3.8	6.2	7.5	18.9	20.1	21.5	22.9	24.2	35.5	37.0	39.4	47 21.55	0.28	5.10	17 47 26.93	20.27
	B. A. C. 6074, (1st *)	28	3.0	5.2	6.7	17.7	18.8	20.2	21.6	22.8	34.0	35.4	37.8	50 20.29	+ 0.27	5.10	17 50 25.66	19.90
	B. A. C. 6074, (2d *)	29	39.0	40.5	42.0	43.3	46.2	. .	55.7	58.3	59.8	1.3	2.8	50 20.89	0.00	5.10	17 50 25.99	19.90
	O. A. S. 17506, (2d *)	†30	. .	. .	. .	20.0	21.2	23.4	39.7	42.6	43.8	45.3	46.6	54 35.33	— 28.01	5.10	17 54 12.42	18.81
	* — 22° 50′ . .	31	23.9	25.9	27.3	37.7	38.8	40.1	41.3	42.4	53.0	54.3	56.5	55 40.10	+ 0.25	5.10	17 55 45.45	18.82
	O. Arg. S. 17681 .	32	2.5	4.6	5.9	16.1	17.2	18.5	19.7	20.9	21.3	22.5	24.7	0 18.54	+ 0.24	5.10	18 0 23.88	18.59
	Dorpat 2281 . .	33	. .	. .	. .	44.3	45.1	46.3	47.6	48.7	58.3	59.5	1.6	2 51.42	— 4.79	5.10	18 2 51.73	15.55
	μ Sagittarii . . .	34	20.6	22.7	24.1	34.3	35.4	36.6	37.8	38.9	49.3	50.5	52.8	5 36.64	+ 0.24	5.10	18 5 41.98	18.57
	* — 28° 25′ . .	35	42.4	44.0	45.5	46.7	49.4	. .	. .	. .	. .	. .	. .	11 45.60	37.98	5.10	18 12 28.68	19.66
	B. A. C. 6220 . .	36	5.8	7.9	9.5	20.2	21.4	22.7	24.1	25.2	36.3	37.6	40.0	13 22.79	0.26	5.10	18 13 28.15	19.67
	δ Ursæ Minoris . .	37	. .	. .	. .	32.0	50.0	10.0	29.0	47.5	. .	. .	. .	16 9.70	2.49	5.10	. . . .	72.99
	B. A. C. 6286 . .	38	56.1	58.3	59.5	10.0	11.0	12.4	13.6	14.7	25.2	26.5	28.8	22 12.37	0.25	5.10	18 22 17.72	18.91
	B. A. C. 6310 . .	39	12.2	14.3	15.7	26.8	27.9	29.4	30.8	32.0	53.4	54.6	57.0	25 29.46	0.28	5.10	18 25 34.84	20.08
	1 Aquilæ	40	31.7	33.8	35.0	44.7	45.7	46.9	48.1	49.1	58.8	0.0	2.1	27 46.90	+ 0.20	5.10	18 27 52.20	16.99
	Victoria	41	. .	. .	. .	5.3	6.4	7.6	8.8	9.9	19.6	20.7	22.7	49 12.62	— 4.80	5.10	18 49 12.92	. .
	O. Arg. S. 18939 .	42	12.9	15.3	16.7	27.7	28.9	30.1	31.4	32.7	43.7	45.0	47.3	52 30.15	+ 0.27	5.10	18 52 35.52	19.71
	Lalande 35497 . .	43	. .	. .	. .	. .	. .	. .	35.0	37.5	39.0	40.2	41.5	55 38.64	— 35.46	5.10	18 55 8.28	18.32
	ζ Aquilæ	44	. .	. .	. .	20.0	21.4	23.4	39.0	41.5	42.8	44.0	45.6	59 34.71	— 26.60	5.10	18 59 13.21	14.69
	B. A. C. 6568 . .	45	40.3	42.5	43.8	54.9	56.1	57.5	58.8	59.9	11.2	12.5	14.7	5 57.47	+ 0.27	5.10	19 6 2.84	19.85
	* — 23° 48′ . .	†46	46.5	48.6	50.0	0.3	1.5	2.7	3.9	5.2	15.6	17.0	19.2	11 2.77	0.27	5.10	19 11 8.12	18.92
	δ Aquilæ	47	22.2	24.0	25.3	34.7	35.7	37.0	38.1	39.1	48.8	50.0	52.0	18 36.99	0.19	5.10	19 18 42.28	15.93
	Weisse 719 . . .	48	2.5	4.5	5.8	15.5	16.5	17.7	18.9	20.0	29.8	31.0	33.0	29 17.75	0.21	5.10	19 29 23.06	17.29
	O. Arg. S. 19879 .	49	6.2	8.4	9.7	20.2	21.3	22.6	23.9	25.0	35.6	36.8	39.0	34 22.61	0.25	5.10	19 34 27.96	18.94
	O. Arg. S. 19909 .	50	13.9	16.0	17.3	27.7	28.8	30.0	31.4	32.5	43.2	44.4	46.6	36 30.16	+ 0.25	+ 5.10	19 36 35.51	— 18.75

1. Unsteady.
2. Faint.
5. Faint; through haze.
8. Blurred and unsteady.
13. Unsteady.
30. Larger of two.
46. Faint.

			s.
July 23	. . . .	n. =	— 0.22.
25	. . . .		— 0.09.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 23, 0.6	+ 5.98	— 0.006	+ 0.190
25, 21.0	+ 5.10	— 0.001	+ 0.190

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 25	(* 119) W.	1	26.7	30.4	33.0	50.9	52.8	55.2	57.3	59.4	17.8	20.2	24.3	41 55.27	+ 0.22	+ 5.10	19 42 0.59	− 8.21
Y.	57 Aquilæ, (1st *) .	2	38.3	39.7	40.8	42.0	44.4	. .	45.0	47.5	48.7	50.0	51.3	47 14.77	− 0.04	5.10	19 47 19.83	17.03
	57 Aquilæ, (2d *) .	3	59.8	1.6	2.9	12.8	13.7	14.9	16.0	17.1	26.8	28.1	30.0	47 14.88	+ 0.20	5.10	19 47 20.18	17.03
	Dorpat 2613, (1st *)	4	19.3	20.8	22.0	23.2	25.6	. .	26.7	29.1	30.3	31.7	33.0	54 56.17	− 0.06	5.10	19 55 1.21	15.21
	Dorpat 2613, (2d *)	5	40.7	42.8	44.0	53.7	54.8	56.0	57.2	58.3	8.0	9.3	11.4	54 56.02	+ 0.18	5.10	19 55 1.30	15.21
	Weisse 1394 . .	6	. .	. .	. .	52.3	53.6	55.5	11.0	13.4	14.6	16.0	17.2	56 6.70	− 26.27	5.10	19 55 45.53	15.21
	O. Arg. S. 20246 .	7	15.2	17.3	18.7	29.2	30.2	31.5	33.0	34.0	44.6	45.8	48.1	59 31.60	+ 0.25	5.10	19 59 36.96	18.74
	Psyche	†8	50.5	52.3	53.6	3.9	5.0	6.1	7.3	8.4	. .	. .	. .	5 0.89	− 5.01	5.10	20 5 0.98	. .
	α² Capricorni . . .	9	13.8	15.8	17.0	27.0	28.0	29.2	30.4	31.4	41.4	42.5	44.7	10 29.20	+ 0.22	5.10	20 10 34.52	17.44
	Moon II . . .	10	42.7	44.8	46.1	56.2	57.3	58.5	59.8	0.8	11.3	12.3	14.5	35 58.57	0.17	5.09	2 36 3.83	. .
	α Ceti	11	52.4	54.3	55.6	5.2	6.2	7.4	8.5	9.7	19.3	20.4	22.5	55 7.41	0.19	5.09	2 55 12.69	14.84
	β Tauri	12	21.6	23.9	25.3	36.1	37.2	38.6	39.8	41.1	52.0	53.3	55.8	17 38.61	0.17	5.09	5 17 43.87	17.24
R.	α Orionis	13	30.0	31.8	33.1	42.7	43.6	44.9	46.1	47.2	56.8	58.0	0.0	47 44.93	+ 0.18	5.05	5 47 50.16	14.60
	α Canis Majoris . .	14	. .	. .	. .	2.5	3.6	4.9	6.1	7.2	17.3	18.5	20.7	39 10.10	− 4.96	5.05	6 39 10.19	11.53
26	Sun I	15	9.6	11.7	13.0	33.0	34.2	35.4	36.7	37.8	48.1	49.4	51.4	23 35.48	+ 0.17	5.05	8 23 40.70	. .
	Sun II	16	33.7	35.9	37.2	47.3	48.3	49.6	50.8	52.0	2.4	3.5	5.7	25 49.67	+ 0.17	5.05	8 25 54.89	. .
	α Ceti	17	. .	. .	. .	5.2	6.2	7.5	8.7	9.7	19.3	20.6	22.5	55 12.46	− 4.77	5.07	2 55 12.76	14.87
	Moon II . . .	†18	55.7	57.8	59.1	9.4	10.5	11.7	13.0	14.1	24.6	25.8	28.0	32 11.79	+ 0.17	5.07	3 32 17.03	. .
	η Tauri	†19	5.2	7.3	8.7	. .	. .	. .	54.5	57.2	58.5	59.8	1.5	39 39.09	− 17.38	5.07	3 39 26.78	16.74
Y. 27	α Tauri	20	26.6	28.0	29.4	30.6	33.0	. .	. .	. .	. .	. .	. .	27 29.52	+ 34.72	5.16	4 28 9.40	15.90
	Moon II . . .	21	. .	. .	. .	. .	22.8	24.1	25.4	26.6	37.0	38.3	40.5	28 30.67	− 6.34	5.10	4 28 29.43	. .
R.	α Orionis	22	29.8	31.8	33.0	42.7	43.7	44.9	46.0	47.0	56.9	58.1	0.0	47 44.90	+ 0.18	5.10	5 47 50.18	14.64
	α Canis Majoris . .	23	49.1	51.4	52.6	2.6	3.6	4.9	6.0	7.1	17.1	18.5	20.6	39 4.86	+ 0.21	5.10	6 39 10.17	11.56
28	Sun I	†24	. .	. .	. .	. .	. .	. .	59.0	1.2	2.8	4.0	5.5	32 2.50	− 35.39	5.10	8 31 32.21	. .
	Sun II	25	25.0	27.0	28.2	38.5	39.3	40.7	42.0	43.2	53.1	54.5	56.7	33 40.75	+ 0.17	5.10	8 33 46.02	. .
Y.	β Orionis	26	. .	. .	. .	8.1	9.4	11.5	26.8	29.2	30.4	31.8	33.2	8 22.55	− 26.09	5.11	5 8 1.57	13.02
	β Tauri	27	21.5	23.8	25.3	36.0	37.2	38.6	39.9	41.1	52.1	53.5	55.8	17 38.62	+ 0.19	5.11	5 17 43.92	17.33
	α Canis Majoris . .	28	49.4	51.5	52.7	17.2	18.4	20.6	36.4	38.9	40.3	41.6	42.9	39 20.90	− 15.75	5.11	6 39 10.26	11.58
29	Sun I	29	6.0	8.0	9.2	19.5	20.5	21.7	22.9	24.1	34.4	35.5	37.8	35 21.78	+ 0.19	5.11	8 35 27.08	. .
	Sun II	30	19.5	21.6	22.9	33.0	34.1	35.3	36.5	37.7	47.8	49.2	51.2	37 35.35	0.19	5.11	8 37 40.65	. .
	α Leonis	31	. .	. .	. .	1.4	2.4	3.7	4.9	5.9	. .	. .	. .	1 3.66	0.24	5.11	10 1 9.01	14.22
	β Leonis	32	48.1	50.2	51.5	1.3	2.4	3.6	4.9	5.9	16.0	17.1	19.2	42 3.65	+ 0.19	5.11	11 42 8.95	13.88
	Polaris, S. P. . .	33	. .	. .	. .	40.5	0.5	12.0	24.5	41.0	. .	. .	. .	10 11.60	− 7.19	5.11	. . . .	125.82
	μ Herculis . . .	34	49.2	51.4	. .	3.4	4.7	6.0	7.3	8.5	19.4	20.7	23.1	41 7.37	− 1.21	5.11	17 41 11.27	12.50
	Weisse 905 . . .	35	19.4	21.4	22.6	32.3	33.2	34.4	35.5	36.7	56.3	57.6	59.7	45 34.46	+ 0.24	5.11	17 45 39.81	16.83
	Dorpat 2245, (1st *)	36	46.5	48.0	49.3	50.5	53.0	. .	56.4	59.0	0.1	1.5	2.9	50 24.72	− 0.11	5.11	17 50 29.72	13.84
	Dorpat 2245, (2d *)	37	9.0	11.0	12.3	22.4	23.4	24.8	25.9	27.1	37.2	38.4	40.5	50 24.73	+ 0.14	5.11	17 50 29.98	13.84
	95 Herculis, (1st *) .	38	25.8	28.0	29.3	39.6	40.7	41.8	43.0	44.3	54.7	55.8	58.1	55 41.92	+ 0.12	5.11	17 55 47.15	13.47
	95 Herculis, (2d *) .	39	3.7	5.1	6.4	7.6	10.2	. .	14.9	17.5	18.7	20.2	21.6	55 42.29	− 0.14	5.11	17 55 47.56	13.47
	Weisse 18 . . .	40	21.3	23.2	24.5	. .	. .	. .	. .	. .	48.1	49.3	51.3	2 36.28	+ 0.17	5.11	18 2 41.56	15.69
	μ Sagittarii . . .	41	20.5	22.8	24.0	34.3	35.4	36.7	38.0	39.0	49.4	50.6	52.7	5 36.67	0.30	5.11	18 5 42.08	18.56
	O. Arg. S. 18015 .	42	26.9	29.1	30.4	40.5	41.4	42.7	43.9	45.0	55.2	56.5	58.7	10 42.75	0.29	5.11	18 10 48.15	18.24
	O. Arg. S. 18017 .	43	5.7	7.3	8.6	9.8	12.3	. .	15.7	18.3	19.5	20.9	22.2	10 44.03	0.04	5.11	18 10 49.18	− 18.24
	δ Ursæ Minoris . .	44	. .	. .	. .	32.5	50.0	11.2	31.0	49.0	. .	. .	. .	16 10.70	0.30	5.11	. . . .	+ 73.96
	O. Arg. S. 18248 .	45	43.3	45.5	46.7	56.7	57.8	59.0	0.3	1.4	11.5	12.7	14.8	19 59.06	0.29	5.11	18 20 4.46	− 18.16
	O. Arg. S. 18395 .	46	50.1	52.1	53.4	3.4	4.5	5.7	6.8	8.0	18.2	19.4	21.5	26 5.74	0.29	5.11	18 26 11.14	18.13
	O. Arg. S. 18486 .	47	54.3	56.4	57.6	8.0	9.1	10.4	11.6	12.8	23.4	24.8	26.8	30 10.47	0.32	5.11	18 30 15.90	18.90
	O. Arg. S. 18577 .	48	37.3	39.3	40.7	50.8	51.8	53.1	54.3	55.4	5.6	6.8	9.1	34 53.11	+ 0.29	5.11	18 34 58.51	18.37
	O. Arg. S. 18623 .	49	. .	. .	. .	. .	. .	. .	42.6	45.4	46.6	47.9	49.5	37 46.40	− 35.78	5.11	18 37 15.71	18.60
	* — 19° 18′ . .	†50	. .	. .	. .	50.4	51.4	52.6	53.8	55.0	5.0	6.4	8.4	41 57.86	− 4.96	+ 5.11	18 41 58.03	− 18.36

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 26, 16.8	+ 5.06	+ 0.001	+ 0.190
27, 5.7	5.10	0.000	. .
29, 14.8	+ 5.11	0.000	+ 0.200

8. Very faint.
18–19. Through haze.
24. Clouds.
50. Faint.

		s.
July 27, . . .	n. =	− 0.09.
28–29,	5h. to 14h.	0.07.
29,	17h. to 20h.	0.23.
	0h. to 2h.	0.29.
29–30,	5h. to 14h.	− 0.10.

r.
July 29, 20h. 15m. Image east 0.23. Clamp east.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
July 29 Y.	* — 7° 31′ . . .	1	14.3	15.6	16.8	18.0	20.3	. .	20.9	23.3	24.5	25.9	27.1	46 50.67	— 0.01	+ 5.11	18 46 55.77	— 16.98
	Victoria . . .	2	45.3	47.2	48.5	58.2	59.2	0.3	1.5	2.6	12.4	13.6	15.6	47 0.40	+ 0.23	5.11	18 47 5.74	. .
	Dorpat 2425, (1st *)	3	53.9	55.9	57.1	6.7	7.8	8.9	10.1	11.2	21.2	22.2	24.4	53 9.04	+ 0.24	5.11	18 53 14.39	17.03
	Dorpat 2425, (2d *)	4	32.7	34.2	35.4	36.6	38.9	. .	39.6	42.3	43.4	44.7	46.0	53 9.38	0.00	5.11	18 53 14.49	17.03
	Dorpat 2434, (1st *)	5	. .	. .	. .	. .	. .	. .	12.8	15.2	16.5	17.9	19.3	56 16.34	— 33.46	5.11	18 55 47.99	16.21
	Dorpat 2447 . .	6	29.0	30.0	31.2	32.4	33.4	. .	1.4	3.9	5.0	6.5	7.7	59 48.05	— 16.60	5.11	18 59 36.56	16.29
	20 Aquilæ	7	1.4	3.6	4.9	14.3	15.4	16.6	17.7	18.9	28.6	29.8	31.8	5 16.64	+ 0.24	5.11	19 5 21.99	17.02
	Eunomia . . .	8	5.4	7.5	9.0	19.3	20.2	21.6	22.9	24.0	34.5	35.7	37.9	9 21.64	0.31	5.11	19 9 27.06	. .
	Lalande 36252 . .	9	28.7	30.8	32.1	42.4	43.5	48.8	46.0	47.1	57.7	59.0	1.1	10 44.84	+ 0.31	5.11	19 10 50.26	18.73
	B. A. C. 6607 . .	10	. .	. .	. .	. .	. .	. .	0.7	3.3	4.6	6.0	7.5	13 4.42	— 36.16	5.11	19 12 33.37	18.77
	δ Aquilæ	11	22.1	24.1	25.3	34.8	35.8	37.0	38.2	39.2	48.9	50.0	52.0	18 37.04	+ 0.19	5.11	19 18 42.34	15.94
	Lacaille 8120 . .	12	10.6	13.0	14.4	25.6	26.8	28.3	29.6	30.8	42.5	43.7	46.0	21 28.30	0.39	5.11	19 21 33.80	20.14
	B. A. C. 6684 . .	13	7.8	10.1	11.7	22.7	23.7	25.2	26.5	27.8	38.9	40.3	42.7	24 25.22	0.37	5.11	19 24 30.70	19.86
	β Aquilæ	14	21.4	23.5	24.8	34.3	35.3	36.5	37.7	38.7	48.4	49.6	51.7	48 36.54	0.18	5.11	19 48 41.83	— 15.62
	λ Ursæ Minoris . .	15	. .	. .	. .	37.0	29.0	32.0	37.0	29.0	. .	. .	. .	0 32.80	0.93	5.11	. . . .	+ 194.89
	12 Ceti	16	48.8	50.8	51.8	1.5	2.5	3.7	4.9	5.8	15.5	16.5	18.8	23 3.69	0.23	5.11	0 23 9.03	— 15.43
	Santini 0.30 . .	17	38.0	40.0	41.2	50.7	51.8	53.0	54.1	55.2	4.9	6.0	8.0	26 52.99	+ 0.19	5.11	0 26 58.29	15.56
	(* 127) W. + 2° 33′	18	. .	. .	. .	. .	. .	. .	6.3	8.6	10.0	11.2	12.5	29 9.72	— 33.50	5.11	0 28 41.33	15.55
	B. A. C. 161 . .	19	. .	. .	. .	. .	. .	. .	58.5	1.0	2.2	3.5	4.9	31 2.02	— 33.49	5.11	0 30 33.64	15.55
	B. A. C. 167 . .	20	49.8	51.8	53.0	2.5	3.5	4.7	5.9	7.0	16.5	17.6	19.8	32 4.74	+ 0.19	5.11	0 32 10.04	15.54
	60 Piscium	21	4.7	6.6	7.9	17.5	18.4	19.6	20.9	21.9	31.5	32.5	34.7	40 19.65	0.17	5.11	0 40 24.93	15.46
	Weisse 742 . . .	22	9.5	11.5	12.8	22.3	23.3	24.5	25.7	26.8	36.6	37.6	39.7	43 24.57	0.17	5.11	0 43 29.85	15.61
	Weisse 788 . . .	23	23.0	24.9	26.4	35.9	36.9	38.0	39.3	40.4	50.3	51.3	53.3	45 38.15	0.17	5.11	0 45 43.43	15.63
	ε Piscium	24	36.0	38.0	39.3	48.8	49.8	51.1	52.3	53.3	3.1	4.3	6.3	55 51.12	+ 0.17	5.11	0 55 57.40	15.60
	Polaris	†25	. .	. .	. .	38.5	16.0	6.0	55.0	36.0	. .	. .	. .	10 5.30	— 1.71	5.11	. . . .	126.25
R.	α Orionis	26	8.6	10.3	11.6	12.5	15.0	. .	. .	. .	. .	. .	. .	47 11.60	+ 33.64	5.04	5 47 50.28	14.69
30	Sun I	†27	0.5	2.6	4.0	13.9	14.9	16.3	17.6	18.8	. .	. .	. .	39 11.08	5.45	5.00	8 39 21.53	. .
	Sun II	†28	13.9	15.8	17.4	27.4	28.4	29.7	31.0	32.0	. .	. .	. .	41 24.45	+ 5.45	5.00	8 41 34.90	. .
Y.	Polaris, S. P. . .	29	. .	. .	. .	40.0	59.0	11.0	22.0	39.0	. .	. .	. .	10 10.20	— 5.98	4.94	. . . .	126.66
	α Virginis	30	43.8	45.9	47.3	56.8	57.9	59.1	0.4	1.4	11.2	12.3	14.5	17 59.15	+ 0.22	4.93	13 18 4.30	14.98
R.	* — 7° 31′ . . .	31	. .	. .	. .	. .	. .	. .	21.3	23.5	24.8	26.1	27.5	47 24.64	— 33.70	4.86	18 46 55.80	16.93
	ζ Aquilæ	32	52.8	54.8	56.1	5.7	6.9	8.0	9.3	10.3	20.2	21.5	23.7	59 8.12	+ 0.14	4.86	18 59 13.12	14.66
	20 Aquilæ	33	2.0	4.0	5.2	14.8	15.7	16.9	18.2	19.2	29.0	30.1	32.2	5 17.03	0.24	4.85	19 5 22.12	17.02
	ω Aquilæ	34	9.5	11.4	12.7	22.4	23.5	24.7	25.8	26.8	36.7	37.8	40.1	11 24.67	+ 0.15	4.85	19 11 29.67	14.98
	Polaris	†35	. .	. .	. .	40.0	17.0	10.0	0.0	41.0	. .	. .	. .	10 9.60	— 2.92	4.84	. . . .	126.25
	θ Ceti	†36	56.3	58.3	59.3	9.1	10.1	11.3	12.6	13.6	23.5	24.7	26.6	17 11.40	+ 0.25	4.77	1 17 16.42	14.85
Aug. 1 Y.	B. A. C. 6083 . .	37	17.6	20.2	21.5	33.4	34.6	36.0	37.6	38.7	50.8	52.1	54.8	52 36.12	0.40	4.63	17 52 41.15	20.96
	Lacaille 7551 . .	38	12.7	15.3	16.9	28.6	29.8	31.4	32.8	34.1	46.0	47.5	50.0	56 31.37	0.40	4.63	17 56 36.40	21.01
	B. A. C. 6160 . .	39	2.0	4.3	5.7	16.6	17.7	19.1	20.4	. .	. .	. .	. .	3 12.26	7.21	4.63	18 3 24.10	19.69
	μ Sagittarii . . .	40	. .	23.3	24.5	34.6	35.8	37.0	38.3	39.4	49.8	51.0	. .	5 37.08	+ 0.29	4.63	18 5 42.00	18.55
	B. A. C. 6182 . .	41	. .	. .	. .	27.0	28.2	29.6	31.0	32.3	43.5	45.0	47.3	7 35.49	— 5.44	4.64	18 7 34.69	20.10
	B. A. C. 6188 . .	42	9.6	12.0	13.5	24.7	25.8	27.2	28.6	29.7	41.0	42.4	44.9	8 27.22	+ 0.36	4.64	18 8 32.22	20.10
	B. A. C. 6202 . .	43	20.1	22.4	23.9	35.0	36.2	37.6	39.0	40.2	51.6	53.0	54.2	11 37.56	0.36	4,64	18 11 42.56	20.11
	δ Ursæ Minoris . .	44	. .	. .	. .	33.0	49.0	9.0	29.5	47.0	. .	. .	. .	16 9.50	0.81	4.64	. . . .	74.96
	B. A. C. 6266 . .	45	35.2	37.5	38.8	49.2	50.1	51.5	52.7	53.9	4.3	5.6	7.9	19 51.52	+ 0.30	4.64	18 19 56.46	18.85
	O. Arg. S. 18314 .	46	34.2	36.4	37.6	. .	. .	. .	22.8	25.4	26.7	28.1	29.5	23 7.59	— 17.00	4.64	18 22 55.23	18.65
	B. A. C. 6310 . .	47	. .	. .	. .	27.2	28.3	29.7	31.2	32.5	43.8	45.1	47.6	25 35.68	— 5.43	4.64	18 25 34.89	20.06
	O. Arg. S. 18564 .	48	4.3	6.4	7.7	17.7	18.8	20.0	21.4	22.5	32.8	34.0	36.3	34 20.17	+ 0.29	4.64	18 34 25.10	18.50
	O. Arg. S. 18625 .	49	55.3	57.3	58.7	8.8	9.8	11.1	12.4	13.5	23.9	25.1	27.2	37 11.19	+ 0.29	4.64	18 37 16.12	18.55
	B. A. C. 6403 . .	50	. .	. .	. .	. .	. .	. .	47.6	50.4	51.8	53.3	54.9	42 51.60	— 38.95	+ 4.64	18 42 17.29	— 20.08

25. Steady.
27–28. Very faint; through clouds.
35. Blurred and very unsteady; used clock beat.
36. Battery gave out.

		s.
July 30, 18h. to 20h.	n. =	— 0.29.
1h. to 2h.		0.32.
August 1, 17h. to 21h.		0.20.
0h. to 2h.		— 0.32.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
July 30, 16.5	+ 4.89	— 0.014	+ 0.200
Aug. 1, 21.3	+ 4.67	+ 0.011	+ 0.200

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	h. m.	m. s.	s.	h. m. s.	s.
Aug. 1	Victoria	1	30.3	32.2	33.4	43.1	44.2	45.3	46.4	47.5	57.3	58.4	0.4	45 45.32	+ 0.23	+ 4.64	18 45 50.19	. .
Y.	Rumker 6881 . .	2	34.8	36.8	38.2	48.5	49.5	50.8	52.0	53.1	3.5	4.8	7.0	50 50.82	0.14	4.64	18 50 55.60	— 13.77
	Lalande 35468 . .	3	57.9	0.0	1.3	11.2	12.2	13.5	14.7	15.8	25.9	27.1	29.2	54 13.53	0.23	4.64	18 54 18.40	18.07
	ζ Aquilæ	4	53.1	54.9	56.3	6.1	7.1	8.3	9.5	10.6	20.5	21.7	23.9	59 8.36	+ 0.16	4.64	18 59 13.16	14.65
	B. A. C. 6549 . .	5	. .	. .	. .	1.1	2.5	4.8	22.4	25.1	26.6	28.2	29.5	2 17.52	— 29.76	4.65	19 1 52.41	19.89
	* — 22° 11′ . .	6	26.8	28.9	30.2	40.6	41.7	42.8	44.2	45.3	55.8	57.0	59.2	6 42.95	+ 0.30	4.65	19 6 47.90	18.72
	Weisse 224 . . .	7	3.6	5.6	6.8	16.3	17.3	18.5	19.8	20.8	30.5	31.6	33.7	10 18.59	0.20	4.65	19 10 23.44	16.05
	Dorpat 2492 . .	8	21.5	23.4	24.6	34.2	35.1	36.3	37.4	38.5	48.2	49.3	51.3	11 36.35	0.20	4.65	19 11 41.20	16.06
	* — 23° 27′ . .	9	5.3	7.4	8.7	19.3	20.2	21.5	22.8	24.0	34.5	35.7	37.9	16 21.57	0.30	4.65	19 6 26.52	18.86
	B. A. C. 6639 . .	10	. .	. .	. .	. .	. .	. .	54.9	57.7	59.2	0.7	2.1	18 58.92	38.50	4.65	19 18 25.07	19.79
	Lacaille 8120 . .	11	11.0	13.3	14.9	26.1	27.2	28.6	30.0	31.2	42.7	44.1	46.6	21 28.70	0.37	4.65	19 21 33.72	20.15
	B. A. C. 6684 . .	12	8.2	10.4	11.9	22.9	24.1	25.4	26.8	28.1	39.2	40.6	43.0	24 25.51	0.35	4.65	19 24 30.51	19.87
	κ Aquilæ	13	18.4	20.4	21.7	31.3	32.3	33.5	34.7	35.7	45.4	46.6	48.8	29 33.53	0.23	4.65	19 29 38.41	16.97
	O. Arg. S. 19879 .	14	6.5	8.9	10.3	20.7	21.8	23.0	24.4	25.5	36.3	37.4	39.8	34 23.15	+ 0.31	4.65	19 34 28.11	18.97
	* — 23° 10′ . .	15	. .	. .	. .	21.4	22.6	23.9	25.2	26.4	36.8	38.1	40.3	36 29.34	— 5.09	4.65	19 36 28.90	18.76
	* + 4° 40′ . . .	16	15.5	17.5	18.8	28.3	29.3	30.5	31.7	32.7	42.4	43.6	45.7	39 30.55	+ 0.18	4.65	19 39 35.38	15.73
	O. Arg. S. 20030 .	17	25.7	28.0	29.2	39.7	40.7	42.1	43.4	44.4	55.0	56.3	58.5	44 42.09	0.31	4.65	19 44 47.05	18.76
	* + 1° 3′ . . .	18	42.5	44.5	45.7	55.2	56.2	57.3	58.5	59.7	9.2	10.4	12.2	49 57.40	0.20	4.65	19 50 2.25	16.10
	* + 6° 32′ . . .	19	4.2	6.3	7.6	17.1	18.1	19.3	20.5	21.5	31.2	32.4	34.5	53 19.34	0.18	4.65	19 53 24.17	15.58
	Dorpat 2612, (1st *)	20	27.8	29.8	31.2	. .	. .	. .	. .	. .	55.0	56.0	58.2	54 43.00	0.14	4.65	19 54 47.79	15.59
	Dorpat 2612, (2d *)	21	. .	. .	. .	42.6	43.6	44.8	46.0	47.1	. .	. .	. .	54 44.82	0.23	4.66	19 54 49.71	15.59
	Pysche	22	2.2	4.2	5.4	15.6	16.5	17.7	18.9	20.2	30.3	31.5	32.5	59 17.73	+ 0.28	4.66	19 59 22.67	. .
	* — 18° 19′ . .	23	. .	. .	. .	. .	. .	. .	27.7	30.4	31.7	33.0	34.4	0 31.44	— 35.17	4.66	20 0 0.93	18.07
	* — 14° 11′ . .	24	37.1	39.1	40.4	50.3	51.3	52.6	53.7	54.8	4.8	5.9	8.1	3 52.55	+ 0.26	4.66	20 3 57.47	17.60
	Weisse 81 . . .	25	54.9	56.8	58.1	7.8	8.9	10.2	11.5	12.5	22.4	23.7	25.7	5 10.23	+ 0.26	4.66	20 5 15.15	17.60
	B. A. C. 7113 . .	26	. .	. .	. .	14.1	15.5	17.6	34.4	37.0	38.4	39.7	41.2	30 29.74	— 28.33	4.66	20 30 6.07	18.60
	Weisse 905 . . .	27	. .	. .	. .	15.1	16.3	18.1	33.4	35.8	37.0	38.2	39.6	36 29.19	— 25.85	4.66	20 36 8.00	16.01
	Weisse 1057 . .	28	18.7	20.7	22.0	31.4	32.4	33.6	34.8	35.8	45.5	46.8	48.8	41 33.69	+ 0.19	4.66	20 41 38.54	15.97
	μ Aquarii	29	3.0	5.1	6.3	15.8	16.8	18.1	19.3	20.4	30.1	31.3	33.3	45 18.14	0.24	4.66	20 45 23.04	17.01
	12 Ceti	30	49.4	51.4	52.5	2.0	3.0	4.2	5.4	6.4	16.1	17.3	19.3	23 4.27	0.23	4.70	0 23 9.20	15.51
	Santini 0.30 . .	31	38.8	40.5	41.7	51.4	52.3	53.5	54.7	56.0	5.4	6.6	8.6	26 53.59	0.19	4.70	0 26 58.48	15.64
	(* 127) W. + 2° 33′	32	21.7	23.7	25.0	34.4	35.5	36.6	37.7	38.7	48.5	49.6	51.7	28 36.65	0.19	4.70	0 28 41.54	15.63
	Neptune . . .	33	15.4	17.4	18.7	28.2	29.2	30.4	31.6	32.6	42.3	43.5	44.5	32 30.35	0.19	4.71	0 32 35.25	. .
	Weisse 620 . . .	34	13.4	15.4	16.6	26.3	27.2	28.4	29.6	30.7	40.4	41.5	43.5	36 28.45	0.17	4.71	0 36 33.33	15.68
	Lacaille 219 . .	35	58.7	1.0	2.5	13.4	14.5	16.0	17.3	18.5	29.7	31.0	33.3	41 15.99	+ 0.42	4.71	0 41 21.12	14.68
	Lacaille 224 . .	36	. .	. .	. .	. .	. .	. .	22.6	25.4	26.6	27.9	29.5	43 26.40	— 36.50	4.71	0 42 54.61	14.83
	Lacaille 241, (1st *)	37	50.1	51.6	52.9	54.1	56.6	. .	3.3	5.9	7.2	8.7	10.1	46 30.05	+ 0.11	4.71	0 46 34.93	14.72
	Lacaille 241, (2d *)	38	13.7	15.5	16.7	27.5	28.5	30.0	31.4	32.4	43.1	44.1	46.6	46 29.95	0.37	4.71	0 46 35.03	14.72
	O. Arg. S. 542 . .	39	22.2	24.5	25.8	36.5	37.7	39.0	40.4	41.5	52.5	53.7	56.0	51 39.07	0.40	4.71	0 51 44.18	14.54
	ε Piscium . . .	40	36.6	38.6	39.8	49.2	50.2	51.5	52.7	53.7	3.6	4.8	6.9	55 51.60	0.16	4.71	0 55 56.47	15.68
	O. Arg. S. 623 . .	41	4.1	6.3	7.8	18.4	19.6	20.9	22.4	23.5	34.2	35.7	37.9	59 20.98	+ 0.39	4.71	0 59 26.08	14.40
	Polaris	42	. .	. .	. .	40.0	19.0	9.5	58.0	38.5	. .	. .	. .	10 9.00	— 2.92	4.72	. . . .	128.61
	θ Ceti	43	56.4	58.4	59.8	9.3	10.2	11.5	12.7	13.8	23.5	24.7	26.8	17 11.55	+ 0.25	4.72	1 17 16.52	14.91
R. 2	ε Piscium	†44	36.6	38.7	39.8	49.5	50.4	51.7	52.9	53.8	3.7	4.8	6.8	55 51.70	+ 0.16	4.68	. . . .	15.71
	Polaris	†45	. .	. .	. .	41.0	22.0	12.0	1.0	41.0	. .	. .	. .	10 11.40	— 4.54	4.68	. . . .	129.33
Y.	α Orionis	46	30.5	32.6	33.8	43.4	44.4	45.7	46.8	47.9	57.5	58.7	0.8	47 45.65	+ 0.18	4.61	5 47 50.44	14.79
	α^2 Geminorum . .	47	34.4	36.7	38.3	49.4	50.7	52.0	53.5	54.8	6.1	7.5	9.9	25 52.12	0.14	4.59	7 25 56.85	17.09
	α Canis Minoris . .	48	52.5	54.5	55.9	5.0	6.2	7.4	8.8	9.8	19.4	20.8	22.8	32 7.55	0.19	4.58	7 32 12.32	14.00
	β Geminorum . . .	49	39.3	41.5	42.9	53.8	54.9	56.3	57.6	58.7	9.8	11.1	13.4	36 56.30	+ 0.14	+ 4.58	7 37 1.02	— 16.36

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 2, 5.8	+ 4.61	— 0.015	+ 0.200

44–45. Through clouds.

August 2, 0h. to 2h. n. = — 0.36 s.
5h. to 8h. — 0.15.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 3	* — 28° 34′ . .	1	9.3	11.6	13.0	23.9	25.1	26.3	27.7	28.8	39.7	41.1	43.5	42 26.36	+ 0.35	+ 4.24	17 42 30.95	— 19.54
Y.	* — 36° 20′ . .	2	48.5	51.0	52.5	4.4	5.5	7.1	8.4	9.5	21.7	23.1	25.8	45 7.05	+ 0.42	4.24	17 45 11.71	20.90
	B. A. C. 6051 . .	3	. .	. .	. .	53.0	54.3	55.8	57.4	58.5	10.6	12.0	14.5	46 2.01	— 5.74	4.24	17 46 0.51	20.92
	O. Arg. S. 17443 .	4	7.3	9.4	10.7	20.9	21.9	23.3	24.5	25.6	35.9	37.3	39.5	51 23.30	+ 0.31	4.24	17 51 27.85	18.48
	γ² Sagittarii . . .	5	47.0	49.3	50.6	1.7	2.8	4.3	5.6	6.8	18.0	19.2	21.7	57 4.27	0.37	4.24	17 57 8.88	19.88
	B. A. C. 6131 . .	6	53.6	56.0	57.3	8.5	9.5	11.0	12.2	13.6	24.9	26.1	28.6	0 11.03	0.38	4.24	18 0 15.65	20.03
	Dorpat 2288 . .	7	17.3	19.4	20.7	30.3	31.2	32.3	33.4	34.6	44.2	45.4	47.4	3 32.38	0.19	4.24	18 3 36.81	15.66
	* — 18° 59′ . .	8	. .	. .	. .	22.0	23.2	24.3	25.6	26.7	. .	. .	. .	6 24.36	0.34	4.24	18 6 28.94	18.25
	O. Arg. S. 17892 .	†9	43.5	45.6	47.0	57.0	58.0	59.2	0.5	1.6	12.0	13.1	15.3	6 59.35	+ 0.29	4.24	18 7 3.88	18.25
	O. Arg. S. 17916 .	10	. .	. .	. .	24.7	25.8	27.1	28.3	29.4	39.6	40.8	43.0	7 32.34	— 4.95	4.24	18 7 31.63	18.25
	O. Arg. S. 17928 .	11	. .	. .	. .	56.8	58.0	0.3	16.3	18.8	20.2	21.6	22.9	8 11.86	27.22	4.24	18 7 48.88	18.25
	* — 19° 1′ . . .	12	. .	. .	. .	37.2	38.4	40.5	56.7	59.2	0.4	1.8	3.2	8 52.18	27.22	4.24	18 8 29.20	18.26
	O. Arg. S. 17965 .	13	. .	. .	. .	10.1	11.4	13.5	29.7	32.2	33.4	34.8	36.2	9 25.16	— 27.22	4.24	18 9 2.18	18.26
	B. A. C. 6220 . .	†14	6.6	8.9	10.2	21.0	22.3	23.5	24.7	26.0	37.2	38.4	40.5	13 23.57	+ 0.44	4.23	18 13 28.24	— 19.64
	δ Ursæ Minoris . .	15	. .	. .	. .	. .	. .	10.0	30.5	48.0	. .	. .	. .	16 29.50	— 19.07	4.23	. . . . .	+ 75.53
	B. A. C. 6266 . .	†16	35.6	37.8	39.1	49.5	50.6	51.9	53.0	54.2	. .	. .	. .	19 46.46	+ 5.74	4.23	18 19 56.43	— 18.84
	B. A. C. 6292 . .	17	4.0	6.2	7.5	17.6	18.5	19.8	21.0	22.2	32.4	33.6	35.8	23 19.87	+ 0.29	4.23	18 23 24.39	18.29
	B. A. C. 6310 . .	18	. .	. .	. .	27.7	28.8	30.3	31.7	32.8	44.1	45.4	47.9	25 36.09	— 5.41	4.23	18 25 34.91	20.05
	* — 31° 0′ . . .	19	. .	. .	. .	52.3	53.7	56.0	13.6	16.5	17.9	19.3	20.8	26 8.76	29.95	4.23	18 25 43.01	20.05
	51 Cephei, S. P. . .	20	. .	. .	. .	. .	22.5	1.5	36.5	12.5	. .	. .	. .	35 48.25	11.73	4.23	6 35 40.75	123.04
	Victoria	21	. .	. .	. .	17.3	18.4	20.4	35.8	38.3	39.5	40.7	42.1	45 31.56	26.01	4.23	18 45 9.78	. .
	Weisse 1143 . .	22	. .	. .	. .	. .	. .	. .	11.7	14.1	15.3	16.5	17.8	46 15.08	— 33.71	4.23	18 45 45.60	16.93
	O. Arg. S. 18916 .	23	10.5	12.6	13.9	24.3	25.4	26.5	27.7	28.9	39.5	40.7	42.8	51 26.62	+ 0.31	4.23	18 51 31.16	18.71
	Weisse 1398 . .	24	26.6	28.6	29.7	39.5	40.5	41.6	42.8	43.9	53.7	54.9	56.9	55 41.70	+ 0.24	4.22	18 55 46.16	16.94
	Weisse 1412 . .	25	5.5	6.5	7.7	8.9	10.0	. .	38.4	40.7	42.0	43.1	44.5	56 24.73	— 16.72	4.22	18 56 12.23	16.94
	ζ Aquilæ	26	6.4	7.4	8.7	9.9	10.9	. .	39.9	42.3	43.5	45.0	46.1	59 26.01	— 17.15	4.22	18 59 13.08	14.64
4	α Canis Majoris . .	27	51.0	53.2	54.4	4.3	5.4	6.7	7.8	8.9	19.0	20.3	22.4	39 6.67	+ 0.24	3.45	6 39 10.36	11.71
	α Canis Minoris . .	28	53.6	55.7	57.0	6.5	7.4	8.6	9.8	11.0	20.6	21.9	23.8	32 8.72	0.19	3.44	7 32 12.35	14.03
	β Geminorum . .	29	40.4	42.8	44.1	55.0	56.0	57.4	58.8	59.9	10.9	12.3	14.5	36 57.46	0.17	3.44	7 37 1.07	— 16.39
5	Sun I	30	15.3	17.2	18.6	28.6	29.6	30.8	32.0	33.2	43.2	44.5	46.8	2 30.89	0.18	3.42	9 2 34.49	. .
	Sun II	31	27.7	29.7	31.0	40.9	42.0	43.3	44.5	45.7	55.7	57.0	59.3	4 43.35	0.18	3.42	9 4 46.95	. .
	Venus I	32	11.6	13.7	15.0	25.0	26.0	27.3	28.5	29.6	39.7	41.0	43.0	25 27.31	0.18	3.41	9 25 30.90	+ 0.35
	Mercury I . . .	33	. .	. .	. .	17.8	18.9	20.1	21.3	22.4	. .	. .	. .	17 20.10	+ 0.23	3.40	10 17 23.73	+ 0.18
	Polaris, S. P. . .	34	. .	. .	. .	46.5	6.0	17.0	28.5	47.5	. .	. .	. .	10 17.10	— 5.98	3.35	. . . . .	— 131.08
8	α Virginis	35	45.4	47.5	48.8	58.5	59.4	0.6	1.8	2.8	12.7	13.9	15.9	18 0.66	+ 0.22	3.35	13 18 4.23	14.91
9	α Virginis	36	. .	. .	. .	13.8	15.0	17.3	32.6	35.1	36.4	37.7	39.0	18 28.36	— 26.29	. .	. . . . .	14.87
R.	ε Pegasi	37	17.9	19.9	21.2	. .	. .	. .	. .	. .	. .	. .	. .	37 19.67	+ 13.13	1.55	21 37 34.35	15.73
	12 Ceti	38	53.0	55.1	56.4	5.8	6.9	8.1	9.3	10.3	20.0	21.2	23.2	23 8.12	— 0.19	1.48	0 23 9.41	15.70
	Neptune . . .	39	56.2	58.0	59.2	8.9	9.9	11.0	12.2	13.3	22.9	24.1	26.1	32 11.07	2.29	1.47	0 32 12.32	. .
	β Ceti	40	32.0	34.0	35.4	45.5	46.5	47.7	49.0	50.0	0.2	1.4	2.7	36 47.67	— 0.12	1.47	0 36 49.02	15.47
	Polaris	41	17.5	18.0	4.0	51.0	28.0	. .	. .	. .	. .	. .	. .	48 11.70	+22 3.82	1.46	. . . . .	124.72
Y.	α Canis Majoris . .	42	31.8	33.2	34.5	35.8	38.2	. .	6.9	8.0	9.3	10.5	11.6	38 51.98	+ 17.15	1.29	6 39 10.42	11.81
	α Canis Minoris . .	43	56.4	58.4	59.7	9.2	10.2	11.4	12.6	13.7	23.3	24.4	26.5	31 11.44	— 0.23	1.27	7 31 12.48	14.12
	β Geminorum . . .	†44	43.2	45.6	46.9	57.7	58.8	0.1	1.6	2.7	13.7	15.0	17.5	37 0.25	0.35	1.27	7 37 1.17	— 16.49
10	Sun I	45	22.5	24.4	25.7	35.5	36.6	37.9	39.2	40.2	50.1	51.4	53.6	21 37.92	0.27	1.22	9 21 38.87	. .
	Sun II	46	34.0	36.0	37.4	47.0	48.3	49.5	50.7	51.9	1.8	2.9	5.1	23 49.51	0.27	1.22	9 23 50.46	. .
	Venus I	47	14.3	15.6	16.9	18.0	20.5	. .	22.6	25.2	26.6	27.8	29.2	49 51.67	— 0.51	1.21	9 49 52.37	+ 0.35
	Mercury I . . .	48	23.0	25.0	26.2	35.9	37.0	38.1	39.3	40.4	. .	. .	. .	46 33.11	+ 4.82	1.18	10 46 39.11	+ 0.19
	Polaris, S. P. . .	49	. .	. .	. .	30.0	50.0	1.0	13.0	32.5	. .	. .	. .	10 1.30	+ 14.94	+ 1.12	. . . . .	— 135.15

9. Several stars in the field; declinations slightly uncertain.
14. Clouds.
16. Clouds.
44. Rather faint.

August 3, 17h. to 19h. n. = — 0.24 s.
4–5 . . . . 0.10.
9, 21h. to 1h. 0.30.
9–10, 6h. to 16h. 0.21.
10, 16h. to 19h. — 0.29.

August 5, 21h. 30m. Image east 0.22 r. Clamp east.
Image west 0.45. Clamp west.
22h. Reduced the level and collimation errors.

August 10, 18h. 45m. Image east 0.12 r. Clamp east.
Image east 0.52. Clamp west.
Readjusted the collimation.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 3, 18.5	+ 4.23	— 0.015	+ 0.200
4, 8.8	3.42	0.015	. .
8, 13.3	2.43	. .	. .
9, 23.5	1.50	0.026	— 0.207
10, 13.2	+ 1.12	— 0.026	— 0.207

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 10	α Virginis	1	48.0	50.0	51.2	1.0	1.9	3.1	4.4	5.5	15.2	16.4	18.4	18 3.19	− 0.17	+ 1.12	13 18 4.14	− 14.85
Y.	α Libræ	2	. .	. .	. .	35.7	37.0	39.0	54.9	57.4	58.6	59.9	1.3	43 50.48	27.15	1.08	14 43 24.41	16.08
	Moon I	3	32.1	34.3	35.7	45.9	46.9	48.2	49.5	50.6	1.0	2.3	4.5	13 48.27	0.15	1.07	15 13 49.19	. .
	α Coronæ Borealis	4	40.5	42.7	44.1	54.9	56.0	57.3	58.6	59.9	10.7	12.0	14.3	28 57.36	0.35	1.06	15 28 58.07	12.39
	Weisse 539	5	55.0	57.1	58.4	8.2	9.2	10.4	11.6	12.7	22.5	23.5	25.7	29 10.39	0.17	1.03	16 29 11.25	16.39
	ξ Herculis	6	53.9	56.3	57.8	8.9	10.0	11.4	12.9	14.1	25.4	27.0	29.4	36 11.55	0.43	1.03	16 36 12.15	11.58
	B. A. C. 5633	7	14.4	16.5	17.9	28.4	29.5	30.8	32.0	33.3	43.8	45.0	47.4	41 30.82	0.10	1.03	16 41 31.75	18.41
	B. A. C. 5678	8	10.8	13.3	14.6	25.8	26.9	28.4	29.6	31.1	42.3	43.6	46.0	46 28.40	0.07	1.03	16 46 29.36	19.45
	* — 31° 14′	9	15.3	17.7	19.1	30.3	31.4	32.7	34.3	35.4	46.8	48.3	50.6	47 32.90	0.07	1.03	16 47 33.86	19.48
	O. Arg. S. 16256	10	6.9	9.0	10.3	20.4	21.5	22.8	24.0	25.1	35.4	36.5	38.7	55 22.78	0.12	1.02	16 55 23.68	− 17.85
	ε Ursæ Minoris	11	11.2	25.6	34.8	45.6	52.8	1.5	10.4	18.0	29.4	38.7	54.0	0 2.00	3.67	1.02	16 59 59.35	+ 27.44
	O. Arg. N. 16862	12	35.3	38.5	40.1	55.5	56.9	59.0	0.8	2.4	17.8	19.7	22.9	4 58.99	0.69	1.02	17 4 59.32	− 8.06
	* — 31° 33′	13	30.0	32.3	33.7	45.0	46.1	47.5	48.8	50.0	1.4	2.8	5.3	14 47.54	0.07	1.01	17 14 48.48	19.77
	B. A. C. 5946	14	24.3	26.8	28.0	38.7	39.8	41.2	42.7	43.7	54.8	55.8	58.2	29 41.27	0.08	1.01	17 29 42.20	19.30
	B. A. C. 5977	15	56.8	59.3	0.7	12.2	13.3	14.7	16.0	17.2	28.9	30.3	32.5	34 14.72	0.06	1.01	17 34 15.67	20.15
	B. A. C. 6023	16	25.4	27.5	28.8	39.3	40.4	41.7	42.9	44.0	54.8	55.9	58.2	41 41.72	0.10	1.00	17 41 42.62	18.80
	B. A. C. 6043	†17	. .	. .	. .	51.7	53.0	54.4	55.7	56.9	8.7	10.1	12.7	45 0.40	6.08	1.00	17 44 55.32	− 20.52
	O. Arg. N. 17680	†18	47.9	55.6	0.9	43.5	47.3	51.3	56.3	0.6	43.0	48.1	57.1	51 51.96	2.10	1.00	17 51 50.86	+ 8.51
	γ² Sagittarii	19	50.5	52.7	54.2	5.3	6.4	7.7	9.0	10.4	21.4	22.9	25.2	57 7.79	0.07	1.00	17 57 8.72	− 19.31
	O. Arg. S. 17728	20	22.2	24.3	25.6	35.7	36.7	38.0	39.0	40.2	50.6	51.7	54.0	1 38.00	0.12	0.99	18 1 38.87	− 18.23
	δ Ursæ Minoris	21	. .	. .	. .	43.0	58.5	19.2	40.0	56.3	. .	. .	. .	16 19.40	7.60	0.99	. . . .	+ 77.50
	O. Arg. S. 18314	22	38.2	40.3	41.6	52.0	53.0	54.1	55.4	56.5	6.9	8.2	10.4	22 54.24	0.11	0.99	18 22 55.12	− 18.59
	1 Aquilæ	†23	36.3	38.4	39.5	49.2	50.1	51.2	52.6	53.6	3.2	4.6	6.6	27 51.39	0.17	0.98	18 27 52.20	16.92
R.	α² Geminorum	†24	. .	. .	. .	53.5	54.5	56.1	57.4	58.6	10.3	11.6	13.8	26 1.98	− 5.90	0.92	. . . .	− 17.26
11	Sun I	†25	9.9	12.1	13.0	23.0	24.1	25.4	. .	. .	. .	. .	. .	25 17.92	+ 7.43	0.88	9 25 26.23	+ 65.67
	Venus I	26	3.4	5.0	6.4	7.5	10.0	. .	12.2	14.4	15.8	17.1	18.5	54 41.03	− 0.29	0.87	9 54 41.61	. .
	Venus II	27	26.0	28.0	29.3	39.3	40.4	41.5	42.6	43.6	53.7	54.9	57.0	54 41.48	0.05	0.87	9 54 42.30	. .
	Mercury I	†28	51.2	53.3	54.5	4.3	5.3	6.5	7.7	8.8	18.6	19.6	21.7	52 6.50	0.06	0.84	10 52 7.28	+ 0.20
Y.	Polaris, S. P.	29	. .	. .	. .	48.0	7.0	19.5	32.0	48.0	. .	. .	. .	10 18.90	1.81	0.79	. . . .	− 136.02
R.	Moon I	†30	. .	. .	. .	56.1	57.3	58.6	59.9	1.0	11.6	12.9	15.0	10 4.05	− 5.51	0.72	16 9 59.26	. .
	α Scorpii	†31	27.5	29.3	30.3	31.6	34.2	. .	5.0	6.2	7.5	8.8	10.0	20 49.04	+ 18.40	0.71	. . . .	18.42
Y.	α Canis Majoris	32	54.5	56.6	57.8	7.8	8.7	9.9	11.3	12.3	22.4	23.6	25.6	39 10.05	− 0.08	0.42	6 39 10.39	11.85
	α Canis Minoris	†33	57.2	59.1	0.4	10.0	11.0	12.1	13.3	14.4	23.9	25.1	27.3	32 12.16	0.06	0.41	7 32 12.46	14.15
	β Geminorum	†34	43.8	46.1	47.7	58.3	59.5	0.8	2.3	3.4	14.3	15.7	18.0	37 0.90	0.04	0.40	7 37 1.26	− 16.53
12	Sun I	35	57.0	58.9	0.1	10.0	11.0	12.2	13.4	14.6	24.5	25.7	27.9	29 12.30	0.05	0.34	9 29 12.59	. .
	Sun II	36	8.0	10.0	11.5	21.1	22.1	23.4	24.6	25.7	35.7	36.9	39.0	31 23.45	0.05	0.34	9 31 23.74	. .
	Venus I	37	51.9	53.3	54.6	55.9	58.2	. .	0.5	2.8	4.1	5.4	6.8	59 29.35	0.29	0.34	9 59 29.40	. .
	Venus II	38	14.4	16.4	17.6	27.5	28.5	29.6	30.9	32.0	42.0	43.1	45.2	59 29.75	0.05	0.34	9 59 30.04	. .
	Mercury I	39	12.7	14.6	15.8	25.5	26.4	27.6	28.8	30.0	39.7	41.0	43.0	57 27.74	0.06	0.28	10 57 27.96	+ 0.20
	β Leonis	40	53.0	55.1	56.4	6.3	7.3	8.6	9.7	10.9	21.0	22.1	24.3	42 8.61	0.05	0.28	11 42 8.84	− 13.79
	Polaris, S. P.	41	. .	. .	. .	49.0	10.0	22.5	35.0	49.0	. .	. .	. .	10 21.10	1.81	0.27	. . . .	136.86
	α Virginis	42	48.7	50.9	52.0	1.5	2.6	3.9	5.1	6.1	15.9	17.1	19.3	18 3.92	0.08	0.27	13 18 4.11	14.82
	Weisse 981	43	27.0	28.9	30.0	39.6	40.5	41.8	43.0	44.0	53.8	54.9	56.9	52 41.85	0.06	0.26	16 52 42.05	15.99
	B. A. C. 5768	44	53.0	55.4	56.8	7.8	8.9	10.3	11.7	12.8	24.1	25.4	27.7	0 10.35	0.01	0.26	17 0 10.60	19.41
	B. A. C. 5796	45	41.1	43.5	44.7	55.7	56.7	58.1	59.4	0.6	11.5	12.8	15.0	4 58.10	0.02	0.26	17 4 58.34	19.05
	O. Arg. S. 16511	46	35.0	37.2	38.5	48.8	49.8	51.0	52.3	53.5	3.8	4.9	7.2	6 51.09	0.03	0.26	17 6 51.32	18.10
	Moon I	47	54.8	56.9	58.2	8.7	9.8	11.2	12.5	13.6	24.1	25.6	27.7	9 11.19	0.03	0.26	17 9 11.42	. .
	θ Ophiuchi	48	26.8	29.0	30.5	40.8	41.9	43.3	44.6	45.8	56.5	57.6	59.9	13 43.34	0.02	0.26	17 13 43.58	18.70
	B. A. C. 5868	49	35.0	37.0	38.5	49.0	50.0	51.3	52.5	53.7	4.3	5.6	7.9	16 51.35	0.02	0.26	17 16 51.59	18.63
	b Ophiuchi	50	51.4	53.6	55.0	5.3	6.4	7.9	9.0	10.2	20.7	22.0	24.3	18 7.80	− 0.02	+ 0.26	17 18 8.04	− 18.63

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 11, 11.9	+ 0.82	− 0.023	− 0.063
7.3	0.41	− 0.013	. .
12, 19.2	+ 0.25	+ 0.004	− 0.063

17. Many stars in the field.
18. Faint.
23. Blurred.
24. Very faint.
25. Pen failed.
28. Very faint.
30–31. Through clouds.
33. Unsteady.
34. More steady.

		s.
August 11	n. =	+ 0.06.
11–12, 7h. to 14h.		+ 0.06.
12, 16h. to 22h.		− 0.10.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. Aug. 12 Y.	c^2 Ophiuchi . . .	1	54. 6	56. 7	58. 1	8. 5	9. 6	11. 0	12. 3	13. 4	23. 8	25. 2	27. 5	23 10. 97	— 0. 02	+ 0. 26	17 23 11. 21	— 18. 63
	B. A. C. 5932 . .	2	56. 3	58. 7	0. 4	12. 5	13. 7	15. 3	16. 8	18. 1	30. 5	32. 0	34. 6	27 15. 35	0. 00	0. 26	17 27 15. 61	21. 10
	B. A. C. 5960 . .	3	55. 9	58. 2	59. 6	10. 9	12. 1	13. 4	14. 8	16. 1	27. 4	28. 7	31. 2	31 13. 48	0. 01	0. 26	17 31 13. 73	19. 95
	* — 32° 5′ . . .	4	. .	. .	. .	37. 3	38. 7	41. 0	59. 0	1. 9	3. 2	4. 8	6. 4	31 54. 03	30. 72	0. 26	17 31 23. 57	19. 96
	* — 32° 7′ . . .	5	.	. .	. .	. .	. .	. .	31. 6	34. 4	35. 9	37. 4	39. 0	32 35. 66	39. 72	0. 26	17 31 56. 18	19. 96
	Lacaille 7420 . .	6	49. 8	52. 4	53. 8	. .	. .	. .	. .	. .	24. 4	25. 9	28. 5	37 9. 13	0. 05	0. 26	17 37 9. 34	21. 31
	Lacaille 7448 . .	7	8. 2	10. 5	12. 2	23. 8	25. 0	26. 5	27. 9	29. 3	41. 2	42. 5	45. 0	40 26. 55	0. 01	0. 26	17 40 26. 80	20. 58
	* — 35° 17′ . .	8	45. 5	47. 9	49. 3	1. 0	2. 3	3. 8	5. 0	6. 5	18. 3	19. 7	22. 2	42 3. 77	0. 01	0. 26	17 42 4. 02	20. 58
	* — 34° 58′ . .	9	. .	. .	. .	9. 4	10. 7	13. 2	31. 7	34. 6	36. 1	37. 7	39. 3	44 26. 59	31. 76	0. 26	17 43 55. 09	20. 54
	B. A. C. 6038 . .	10	. .	. .	. .	. .	. .	. .	59. 4	2. 2	3. 8	5. 4	7. 0	45 3. 56	41. 07	0. 26	17 44 22. 75	20. 54
	B. A. C. 6057 . .	11	8. 8	10. 2	12. 7	24. 0	25. 2	26. 6	27. 9	29. 1	40. 6	42. 2	44. 5	47 26. 53	0. 01	0. 26	17 47 26. 78	20. 11
	Dorpat 2244 . .	†12	. .	. .	. .	. .	. .	. .	39. 9	42. 2	43. 5	45. 0	46. 0	50 43. 32	33. 71	0. 26	17 50 9. 87	15. 80
	γ^2 Sagittarii . . .	13	51. 1	53. 4	54. 9	5. 8	7. 1	8. 5	9. 8	11. 2	22. 3	23. 6	25. 9	57 8. 51	0. 01	0. 25	17 57 8. 75	19. 79
	O. Arg. S. 17728 .	14	22. 7	24. 7	26. 1	36. 2	37. 3	38. 5	39. 8	40. 8	51. 2	52. 4	54. 4	1 38. 55	0. 03	0. 25	18 1 38. 77	18. 21
	B. A. C. 6160 . .	15	21. 3	22. 4	23. 6	25. 0	26. 1	. .	58. 3	0. 9	2. 4	3. 9	5. 4	3 42. 93	19. 22	0. 25	18 3 23. 96	19. 60
	O. Arg. S. 17892 .	16	47. 8	50. 0	51. 3	1. 3	2. 3	3. 6	4. 9	5. 9	16. 2	17. 3	19. 7	7 3. 66	0. 03	0. 25	18 7 3. 88	18, 17
	O. Arg. S. 17916 .	17	. .	. .	. .	29. 0	30. 0	31. 2	32. 5	33. 6	43. 9	45. 0	47. 2	7 36. 55	5. 27	0. 25	18 7 31. 53	18. 18
	O. Arg S. 17928 .	18	. .	. .	. .	1. 0	2. 4	4. 6	20. 5	23. 2	24. 4	25. 8	27. 2	8 16. 14	27. 54	0. 25	18 7 48. 85	18. 18
	O. Arg. S. 17965 .	19	46. 0	48. 1	49. 4	59. 6	0. 6	1. 8	3. 1	4. 2	14. 5	15. 7	17. 7	9 1. 88.	0. 03	0. 25	18 9 2. 10	— 18. 18
	δ Ursæ Minoris . .	20	. .	. .	. .	36. 5	53. 5	13. 5	34. 0	50. 5	. .	. .	. .	16 13. 60	1, 95	0. 25	. . . .	+ 78. 19
	1 Aquilæ	21	36. 8	38. 8	40. 2	. .	. .	. .	.	. .	3. 9	5. 0	7. 2	27 51. 98	— 0. 09	0, 25	18 27 52, 14	— 16. 90
	51 Cephei, S. P. . .	22	. .	. .	. .	28. 0	9. 0	44. 0	18. 0	56. 0	. .	. .	. .	35 43. 00	+ 2. 38	0, 25	18 35 45. 63	126. 16
	B. A. C. 6403 . .	23	59. 5	1. 8	3. 3	14. 4	15. 6	17. 0	18. 4	19. 6	30. 9	32. 2	34. 6	42 17. 03	— 0. 01	0, 25	18 42 17, 27	20. 01
	B. A. C. 6414 . .	24	. .	. .	. .	15. 7	17. 1	19. 4	37. 2	40. 0	41. 4	42. 9	44. 4	44 32. 26	30. 33	0. 25	18 44 2. 18	19. 98
	B. A. C. 6485 . .	25	13. 5	15. 6	17. 0	27. 2	28. 4	29. 7	31. 0	32. 1	42. 6	43. 9	46. 1	53 29. 74	0. 03	0. 25	18 53 29. 96	18. 78
	Dorpat 2447 . . .	26	21. 2	23. 3	24. 6	33. 9	35. 1	36. 3	37. 5	38. 6	48. 3	49. 4	51. 3	59 36. 32	0. 06	0. 25	18 59 36. 51	16. 24
	B. A. C. 6568 . .	27	45. 5	47. 7	49. 1	0. 1	1. 2	2. 6	4. 0	5. 2	16. 4	17. 8	20. 0	6 2. 69	0. 01	0. 25	19 6 2. 93	19. 81
	O. Arg. S. 19341 .	28	2. 8	5. 3	6. 5	17. 5	18. 6	20. 0	21. 3	22. 5	33. 5	34. 8	37. 2	8 20. 00	0. 02	0. 25	19 8 20. 23	19. 63
	B. A. C. 6604 . .	29	13. 1	15. 3	16. 6	27. 2	28. 2	29. 5	30. 8	32. 0	42. 5	43. 8	46. 0	12 29. 55	0. 03	0. 25	19 12 29. 77	18. 98
	δ Aquilæ	30	27. 1	29. 0	30. 2	39. 9	40. 8	42. 0	43. 2	44. 4	54. 0	55. 0	57. 2	18 42. 07	0. 07	0. 25	19 18 42. 25	15. 91
	O. Arg. S. 19660 .	31	21. 4	23. 6	25. 0	35. 9	37. 0	38. 3	39. 7	40. 8	51. 9	53. 3	55. 5	23 38. 40	0. 02	0. 25	19 23 38. 63	19, 52
	O. Arg. S. 19708 .	32	. .	. .	. .	18. 1	19. 4	21. 6	38. 7	41. 5	42. 8	44. 3	45. 7	26 34. 01	29. 33	0. 25	19 26 4. 93	19. 36
	Weisse 722 . . .	33	11. 1	13. 2	14. 4	24. 0	25. 0	26. 3	27. 5	28. 5	38. 5	39. 6	41. 6	29 26. 34	0. 04	0. 25	19 29 26. 55	17. 26
	Dorpat 2562, (1st *)	34	37. 1	38. 4	39. 6	40. 8	43. 2	. .	44. 0	46. 3	47. 5	48. 9	50. 2	36 13. 60	0. 32	0. 25	19 36 13. 53	15, 37
	Dorpat 2562, (2d *)	35	59. 9	1. 8	3. 2	12. 7	13. 7	15. 9	16. 2	17. 2	26. 9	28. 2	30. 2	36 15. 08	0. 08	0. 25	19 36 15. 25	— 15. 37
	λ Ursæ Minoris . .	36	. .	. .	. .	. .	. .	. .	8. 5	16. 5	17. 5	25. 5	35. 5	30 8. 70	29 37. 82	0. 25	. . . .	+ 201. 65
	α^2 Capricorni . . .	37	18. 9	21. 0	22. 3	32. 1	33. 2	34. 3	35. 4	36. 5	46. 5	47. 7	49. 8	10 34. 34	0. 04	0. 25	20 10 34. 55	— 17. 51
	B. A. C. 59 . . .	38	13. 4	16. 0	17. 5	29, 6	30, 7	32. 1	33. 7	35. 0	47. 0	48. 7	51. 2	11 32. 25	0. 00	0. 25	0 11 32, 48	15. 57
	Lacaille 52 . . .	39	27. 4	28. 7	30. 1	31. 7	33. 0	. .	7. 8	10. 7	12. 4	13. 9	15. 7	14 51. 14	20. 91	0. 23	0 14 30. 46	15. 50
	Lacaille 62 . . .	40	. .	. .	. .	. .	. .	. .	47. 3	50. 5	52. 1	53. 8	55. 4	16 51. 82	42. 81	0. 23	0 16 9. 24	15. 44
	Lacaille 72 . . .	41	. .	. .	. .	18. 5	19. 9	21. 4	23. 0	24. 3	36. 4	38. 1	40. 5	17 27. 76	6. 30	0. 23	0 17 21. 69	15. 40
	Lacaille 92 . . .	42	28. 8	31. 0	32. 2	43. 6	44. 9	46. 4	47. 8	49. 0	0. 5	1. 8	4. 3	20 46. 39	0. 01	0. 23	0 20 46. 61	15. 38
	12 Ceti	43	54. 2	56. 1	57. 6	6. 9	7. 8	9. 0	10. 2	11. 3	20. 9	22. 1	24. 2	23 9. 12	0. 05	0. 23	0 23 9. 30	15. 77
	B. A. C. 136, (1st *)	44	48. 0	50. 6	52. 0	3, 8	5, 0	6. 5	7. 9	9. 3	21. 1	22. 5	25. 0	27 6. 52	0. 01	0. 23	0 27 6. 74	15. 18
	B. A. C. 136, (2d *)	45	22. 3	24. 0	25. 6	27. 0	30. 0	. .	43. 8	46. 8	48. 3	49. 9	51. 7	27 6. 94	0. 30	0. 23	0 27 6. 87	15. 18
	Neptune . . .	46	46. 6	48. 7	49. 8	59. 5	0. 5	1. 6	2. 8	3. 8	13. 5	14. 6	16. 7	32 1, 65	0. 07	0. 23	0 32 1. 81	. .
	β Ceti	47	33. 1	35. 1	36. 3	46. 5	47. 6	48. 8	50. 0	51. 0	1. 3	2. 5	4. 8	36 48. 82	0, 03	0. 23	0 36 49, 02	15. 44
	Lacaille 216 . .	48	45. 4	47. 8	49. 4	1. 4	2. 6	4. 3	5. 8	7. 0	19. 3	20. 7	23. 2	41 4. 26	0. 00	0. 23	0 41 4, 49	14. 79
	O. Arg. S. 452 . .	49	5. 4	7. 8	9. 0	19. 5	20. 6	21. 7	23. 0	24. 2	35. 0	36. 3	38. 6	43 21. 92	0, 02	0. 23	0 43 22, 13	15. 09
	B. A. C. 249 . .	50	16. 3	18, 7	20, 1	31. 6	32. 9	34. 2	35. 5	36. 9	48. 5	49. 6	52. 3	47 34. 24	— 0, 01	+ 0. 23	0 47 34, 46	— 14. 75

12. Very close double.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 12, 9. 0	— 0. 04	— 0. 020	— 0. 063

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 12	Lacaille 257	1	57.2	59.5	0.9	11.5	12.6	13.9	15.2	16.5	27.1	28.4	30.6	50 13.95	— 0.02	+ 0.23	0 50 14.16	— 14.93
Y.	ε Piscium	2	41.5	43.6	44.9	54.4	55.4	56.6	57.8	58.8	8.5	9.7	11.8	55 56.64	0.08	0.23	0 55 56.79	15.96
	Polaris	3	. .	. .	. .	57.0	37.0	25.5	14.5	53.5	. .	. .	. .	10 25.50	4.66	0.23	. . . .	137.27
	α Canis Majoris	4	54.9	57.0	58.4	8.2	9.2	10.5	11.7	12.9	23.0	24.0	26.2	39 10.55	0.08	+ 0.01	6 39 10.48	11.88
R.	α² Geminorum	5	39.4	41.7	43.3	54.4	55.6	57.0	58.5	59.7	11.0	12.4	15.0	25 57.09	0.04	— 0.01	7 25 57.04	17.30
	α Canis Minoris	6	57.6	59.5	0.8	10.3	11.4	12.5	13.7	14.8	24.5	25.6	27.7	32 12.58	0.06	0.01	7 32 12.51	14.17
	β Geminorum	7	44.4	46.5	48.0	58.7	59.9	1.3	2.6	3.8	14.7	16.1	18.5	37 1.32	0.04	0.01	7 37 1.27	— 16.55
13	Sun I	8	43.3	45.3	46.5	56.4	57.5	58.6	59.8	0.9	10.9	12.1	13.2	32 58.59	0.05	0.05	9 32 58.49	. .
	Sun II	9	54.2	56.4	57.6	7.5	8.6	9.8	11.0	12.2	22.0	23.2	25.4	35 9.81	0.05	0.05	9 35 9.71	. .
	Venus I	10	0.9	3.0	4.4	14.0	15.2	16.4	17.6	18.7	28.5	29.8	31.7	4 16.38	0.05	0.06	10 4 16.27	. .
	Venus II	11	40.1	41.5	42.7	44.0	46.3	. .	48.3	50.6	52.1	53.4	54.7	4 17.37	0.29	0.06	10 4 17.02	. .
	Mercury I	12	26.6	28.7	30.0	39.3	40.5	41.7	42.9	44.0	53.5	54.7	56.7	2 41.69	0.06	0.08	11 2 41.55	+ 0.20
	β Leonis	13	53.5	55.6	56.9	6.7	7.6	8.9	9.1	11.2	21.3	22.5	24.5	42 8.89	0.05	0.09	11 42 8.75	— 13.78
	Polaris, S. P.	†14	. .	. .	. .	50.0	12.0	22.0	34.0	52.0	. .	. .	. .	10 22.00	1.81	0.12	. . . .	137.66
	α Virginis	15	49.1	51.2	52.4	2.0	3.3	4.3	5.5	6.6	16.3	17.6	19.7	18 4.34	0.08	0.13	13 18 4.13	14.81
Y. 15	ζ Aquilæ	16	59.2	1.3	2.6	12.3	13.4	14.5	15.6	16.7	26.8	28.0	30.0	59 14.58	0.09	1.45	18 59 13.04	14.56
	B. A. C. 6549	17	36.5	38.7	40.1	51.2	52.4	53.6	55.0	56.2	7.4	8.8	11.2	1 53.74	0.01	1.45	19 1 52.28	19.83
	Moon I	18	30.6	32.7	34.1	44.2	45.2	46.6	47.8	49.0	59.2	0.2	2.5	16 46.55	0.04	1.48	20 16 45.03	. .
	ρ Capricorni	†19	. .	. .	. .	. .	. .	. .	. .	. .	24.1	25.4	27.6	21 25.70	14.03	1.48	20 21 10.19	17.97
	ε Delphini	20	11.7	13.2	14.4	15.6	18.0	. .	19.0	21.6	22.8	24.2	25.5	26 48.60	0.32	1.48	20 26 46.80	15.32
16	α² Geminorum	21	41.6	44.1	45.6	56.7	58.0	59.3	0.6	2.0	13.4	14.9	17.3	25 59.41	0.04	2.19	7 25 57.18	17.40
	α Canis Minoris	†22	. .	1.6	3.0	12.5	13.6	14.8	16.0	17.1	26.6	27.7	30.0	32 16.29	1.56	2.19	7 32 12.54	14.25
	β Geminorum	23	46.5	48.8	50.2	1.1	2.3	3.6	4.9	6.1	16.9	18.2	20.7	37 3.57	0.04	2.20	7 37 1.33	16.64
17	Sun I	24	43.7	45.6	47.0	56.8	57.9	59.1	0.3	1.3	11.2	12.5	14.4	47 59.07	0.05	2.26	9 47 56.76	. .
	Sun II	25	54.0	56.2	57.5	7.2	8.3	9.5	10.7	11.9	21.7	22.9	25.0	50 9.54	0.05	2.26	9 50 7.23	. .
	α Aquarii	26	39.5	41.4	42.6	52.3	53.3	54.5	55.7	56.8	6.3	7.5	9.6	58 54.50	0.06	2.58	21 58 51.86	16.35
	θ Aquarii	27	30.8	32.9	34.1	43.6	44.7	45.9	47.1	48.2	57.9	59.2	1.2	9 45.96	0.05	2.59	22 9 43.32	16.73
	π Aquarii	28	11.5	13.5	14.8	24.2	25.3	26.4	27.5	28.6	38.4	39.5	41.6	18 26.48	0.06	2.59	22 18 23.83	16.26
	Moon II	†29	52.6	54.5	55.8	5.6	6.6	7.8	9.1	10.2	20.2	21.4	23.5	22 7.94	0.05	2.60	22 22 5.29	. .
	ζ Pegasi	30	32.3	34.3	35.5	45.4	46.4	47.6	48.7	49.6	59.5	0.7	2.8	34 47.53	0.08	2.60	22 34 44.85	15.95
R. 23	Moon II	†31	33.4	35.6	37.0	47.2	48.3	49.7	50.9	52.0	2.5	3.7	6.0	10 49.66	0.08	11.30	4 10 38.28	. .
	α Tauri	†32	6.0	8.0	9.3	19.2	20.2	21.5	22.7	23.8	33.8	35.1	37.3	28 21.54	0.07	11.32	. . . .	16.71
Y. 24	Sun I	33	46.7	48.8	50.0	59.8	0.9	2.0	3.2	4.3	14.0	15.4	17.3	14 2.04	0.07	11.81	10 13 50.16	. .
	Sun II	34	56.2	58.2	59.5	9.1	10.0	11.3	12.5	13.6	23.5	24.7	27.0	16 11.42	— 0.07	11.81	10 15 59.54	. .
	Polaris, S. P.	35	. .	. .	. .	6.5	27.0	38.0	50.0	6.0	. .	. .	. .	10 37.50	+ 1.83	11.98	. . . .	145.17
	α Virginis	36	0.8	2.8	4.1	13.8	14.9	16.0	17.2	18.3	28.0	29.3	31.3	18 16.05	— 0.06	11.98	13 18 4.01	14.69
	α² Capricorni	37	31.6	33.6	34.9	44.6	45.5	46.7	48.0	49.1	58.9	0.2	2.3	10 46.85	0.04	12.35	20 10 34.46	17.47
	Lacaille 8418	38	13.5	15.8	17.4	29.3	30.4	31.9	33.3	34.6	46.5	48.0	50.5	14 31.93	0.01	12.36	20 14 19.56	20.25
	B. A. C. 7040	39	40.5	42.6	44.1	54.6	55.6	56.1	58.2	59.4	10.0	11.2	13.5	20 56.96	0.02	12.36	20 20 44.58	18.66
	* —21° 44′	40	40.6	42.7	44.0	54.3	55.3	56.5	57.7	59.0	9.5	10.6	12.7	25 56.63	0.03	12.37	20 25 44.23	18.33
	B. A. C. 7113	41	2.0	4.2	5.5	16.0	17.0	18.3	19.7	20.8	31.4	32.8	35.0	30 18.43	0.02	12.37	20 30 6.04	18.64
	B. A. C. 7148	42	19.5	21.6	23.1	33.9	35.1	36.4	37.8	39.0	49.9	51.2	53.5	33 36.45	0.02	12.37	20 33 24.06	19.06
	Lacaille 8546	43	3.0	5.4	6.8	17.8	19.0	20.3	21.8	23.0	34.2	35.6	38.0	37 20.45	0.01	12.38	20 37 8.06	19.34
	μ Aquarii	44	20.3	22.3	23.6	33.1	34.2	35.5	36.7	37.7	47.5	48.7	50.8	45 35.49	0.05	12.38	20 45 23.06	17.07
	O. Arg. S. 21162	45	9.2	11.4	12.7	23.2	24.0	25.4	26.6	27.8	38.3	39.6	41.9	2 25.46	0.03	12.40	21 2 13.03	18.24
	B. A. C. 7359	46	23.1	25.3	26.7	37.3	38.3	39.6	40.9	42.1	52.7	54.0	56.3	5 39.66	0.02	12.40	21 5 27.24	18.44
	* —23° 18′	47	29.3	31.2	32.6	43.0	44.1	45.3	46.7	47.8	58.2	59.5	1.7	14 45.40	0.03	12.41	21 14 32.96	18.16
	B. A. C. 7413	48	12.8	15.1	16.4	26.7	27.8	29.2	30.4	31.5	42.0	43.4	45.5	15 29.16	0.03	12.41	24 15 16.72	18.15
	B. A. C. 7436	49	59.0	1.2	2.5	12.9	14.0	15.3	16.7	17.8	28.2	29.7	31.8	18 15.37	0.02	12.41	21 18 2.94	18.23
	ξ Aquarii	†50	32.0	34.0	35.3	45.0	45.9	47.2	48.3	49.4	59.0	0.3	2.4	30 47.16	— 0.05	—12.43	—21 30 34.68	— 16.92

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 12, 9.0	— 0.04	— 0.020	— 0.063
15, 19.9	1.47	0.022	. .
17, 15.9	2.42	0.027	. .
23, 4.5	11.32	0.067	. .
24, 19.0	12.29	0.054	0.063
5.0	— 12.89	— 0.060	— 0.060

14. Unsteady.
19. Through clouds.
22. Unsteady.
29. Through clouds.
31–32. Through clouds.
50. Cloudy.

August 15. Night cloudy.

r.
August 17, 23h. Image west 0.08. Clamp east.
24, 22h. Image east 0.02. Clamp east.
Image east 0.06. Clamp west.

s.
August 12–13, 7h. to 14h. n. = + 0.06.
15, . . . — 0.10.
16, 7h. to 10h. + 0.06.
17, . . . — 0.10.
23–24, 4h. to 14h. 0.03.
24, 20h. to 22h. 0.10.
4h. to 6h. — 0.03.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860.0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 24	ε Tauri	1	18.5	20.2	21.4	22.5	25.0	. .	28.5	31.2	32.5	33.9	35.3	19 56.90	— 0.34	—12.85	4 19 43.73	— 17.10
Y.	α Tauri	2	7.4	9.5	10.9	20.8	21.9	23.1	24.4	25.5	35.5	36.7	38.9	28 23.15	0.07	12.86	4 28 10.22	16.74
	Moon II	†3	59.0	1.3	2.5	12.8	13.8	15.1	16.5	17.5	28.2	29.4	31.6	7 15.25	0.08	12.90	5 7 2.27	. .
	β Tauri	4	40.7	43.0	44.5	55.3	56.5	57.8	59.1	0.4	11.3	12.7	15.0	17 57.85	0.09	12.91	5 17 44.85	18.15
	δ Orionis	5	3.9	5.9	7.2	16.7	17.7	18.8	19.9	21.0	30.7	31.9	33.9	25 18.87	0.06	12.91	5 25 5.90	14.57
	ε Orionis	6	19.1	21.1	22.4	31.8	32.8	34.0	35.2	36.3	46.0	47.0	49.0	29 34.06	0.06	12.92	5 29 21.08	14.44
R. 25	Moon II	7	8.0	10.1	11.4	21.7	22.8	24.2	25.4	26.6	37.1	38.4	39.6	2 24.12	0.07	14.53	6 2 9.52	. .
	μ Geminorum	8	45.0	47.0	48.5	58.7	59.8	1.1	2.3	3.6	14.1	15.3	17.4	15 1.16	0.08	14.55	6 14 46.53	17.09
	γ Geminorum	9	52.8	54.7	56.0	6.0	7.0	8.2	9.5	10.6	20.6	22.0	24.0	29 8.31	0.07	14.57	6 29 53.67	16.23
Y.	α² Geminorum	10	54.4	56.7	58.3	9.3	10.6	12.0	13.5	14.6	26.1	27.5	29.9	26 12.08	0.09	14.63	7 25 57.36	17.62
	α Canis Minoris	11	12.4	14.4	15.7	25.1	26.3	27.5	28.7	29.7	39.3	40.5	42.6	32 27.47	0.06	14.63	7 32 12.78	14.43
	β Geminorum	12	59.3	1.5	3.0	13.8	14.9	16.3	17.6	18.8	29.7	31.1	33.4	37 16.31	0.08	14.64	7 37 1.59	— 16.84
26	Sun I	13	9.8	11.9	13.3	23.0	24.0	25.3	26.4	27.5	37.3	38.6	40.5	21 25.24	0.07	14.82	10 21 10.35	. .
	Sun II	14	19.1	21.2	22.5	32.0	33.0	34.2	35.5	36.6	46.4	47.6	49.7	23 34.34	0.07	14.82	10 23 19.45	. .
	Venus I	†15	2.1	4.0	5.2	. .	. .	. .	. .	. .	29.1	30.3	32.5	5 17.20	0.10	14.87	11 5 2.23	+ 0.34
R. 27	Sun II	†16	59.8	1.9	3.1	13.0	14.0	15.1	16.2	17.3	27.2	28.3	30.3	27 15.11	0.07	. .	. . . .	. .
	Venus I	17	17.3	18.7	19.8	21.1	23.4	. .	24.3	26.5	27.8	29.2	30.6	9 53.87	0.30	. .	. . . .	+ 0.34
	Venus II	18	39.1	41.2	42.6	52.2	53.3	54.4	55.5	56.5	6.4	7.6	9.7	10 54.41	0.06	. .	. . . .	. .
	Moon II	19	8.8	10.9	12.0	22.1	23.3	24.6	25.8	27.0	37.1	38.5	40.5	47 24.60	0.07	. .	. . . .	. .
Y. 28	α² Geminorum	20	57.7	0.1	1.6	12.8	14.0	15.4	16.9	18.1	29.5	30.7	33.2	26 15.45	0.05	17.95	7 25 57.45	17.70
	α Canis Minoris	21	15.7	17.7	19.0	28.5	29.5	30.7	31.9	33.0	42.7	44.0	46.0	32 30.79	0.06	17.96	7 32 12.77	— 14.49
	β Geminorum	22	2.6	5.0	6.3	17.1	18.2	19.5	20.9	22.1	33.1	34.5	36.8	37 19.65	0.05	17.96	7 37 1.64	— 16.92
29	Sun I	23	10.5	12.4	13.7	23.4	24.4	25.6	26.7	27.9	37.6	38.7	40.7	32 25.60	0.04	18.08	10 32 7.48	. .
	Sun II	24	19.4	21.9	22.6	32.3	33.3	34.6	35.7	36.8	46.5	47.8	49.9	34 34.62	— 0.04	18.08	10 34 16.50	. .
	Mercury I	†25	26.1	27.5	28.5	. .	. .	. .	. .	. .	. .	. .	. .	9 27.37	+ 34.70	18.10	11 9 43.97	+ 0.25
	Polaris, S. P.	26	53.0	33.0	43.0	. .	. .	. .	. .	. .	. .	. .	. .	19 43.00	— 8 54.44	18.19	. . . .	. .
	μ Sagittarii	27	44.1	46.3	47.6	57.7	58.8	0.0	1.5	2.5	12.8	14.1	16.2	6 0.15	0.00	18.38	18 5 41.77	— 18.22
	B. A. C. 6220	28	29.4	31.5	32.8	43.7	44.9	46.2	47.6	48.8	59.8	1.2	3.4	13 46.30	+ 0.02	18.38	18 13 27.94	— 19.33
	δ Ursæ Minoris	29	. .	. .	. .	49.5	7.0	26.5	46.0	3.5	. .	. .	. .	16 26.50	— 2.82	18.39	. . . .	+ 84.36
	B. A. C. 6292	30	26.7	28.9	30.2	40.3	41.3	42.6	43.8	45.0	55.3	56.5	58.6	23 42.65	0.00	18.39	18 23 24.26	— 18.02
	B. A. C. 6310	31	. .	. .	. .	50.5	51.7	52.9	54.4	55.6	7.0	8.2	10.6	25 58.86	— 5.75	18.39	18 25 34.72	19.76
	B. A. C. 6334	32	31.2	33.5	34.9	46.3	47.5	48.8	50.3	51.5	3.1	4.5	6.8	29 48.94	+ 0.04	18.40	18 29 30.58	20.07
	B. A. C. 6361	33	56.5	58.6	59.9	9.5	10.5	11.6	12.8	13.9	23.8	24.8	27.0	35 11.72	— 0.03	18.40	18 34 53.29	16.85
	B. A. C. 6414	34	2.9	5.3	6.8	17.7	18.8	20.4	21.8	23.0	34.1	35.6	37.9	44 20.39	+ 0.03	18.41	18 44 2.01	19.78
	σ Sagittarii	35	55.9	58.1	59.4	10.0	11.1	12.5	13.8	15.0	25.8	27.0	29.3	47 12.54	0.02	18.41	18 46 54.15	19.10
	O. Arg. S. 18916	36	33.4	35.5	36.7	47.2	48.2	49.5	50.8	51.9	2.1	3.3	5.6	51 49.47	+ 0.01	18.41	18 51 31.07	18.48
	Weisse 1398	37	. .	. .	. .	16.4	17.6	19.7	35.0	37.4	38.6	39.8	41.3	56 30.73	— 26.28	18.41	18 55 46.04	16.73
	Weisse 1412	38	. .	. .	. .	. .	. .	. .	1.0	3.5	4.8	6.0	7.3	57 4.52	33.98	18.41	18 56 12.13	16.73
	B. A. C. 6533	39	2.0	4.2	5.6	16.0	17.2	18.4	19.8	20.9	31.6	32.9	35.0	0 18.51	0.01	18.42	19 0 0.08	18.88
	20 Aquilæ	40	25.0	27.2	28.4	38.0	39.0	40.2	41.3	42.4	52.1	53.3	55.5	5 40.22	0.03	16.42	19 5 21.77	16.82
	B. A. C. 6577	41	. .	. .	. .	. .	. .	. .	31.0	33.7	35.3	36.8	38.4	8 35.04	39.11	18.42	19 7 37.51	19.74
	ω Aquilæ	42	32.6	34.6	35.8	45.6	46.7	47.9	49.0	50.0	59.8	1.0	3.2	11 47.84	— 0.09	18.42	19 11 29.33	14.76
	B. A. C. 6627	43	59.1	1.3	2.8	13.9	15.0	16.4	17.6	18.9	30.3	31.7	34.0	16 16.45	+ 0.03	18.43	19 15 58.05	19.78
	B. A. C. 6639	44	26.2	28.4	29.8	41.0	42.0	43.4	44.8	45.9	57.1	58.5	0.8	18 43.45	+ 0.03	18.43	19 18 25.05	19.61
	O. Arg. S. 19708	45	. .	. .	. .	. .	. .	. .	57.2	0.0	1.3	2.8	4.2	27 1.10	— 37.90	18.43	19 26 4.77	19.23
	Weisse 719	46	26.4	28.1	29.4	39.1	40.1	41.3	42.5	43.5	53.4	54.6	56.8	29 41.38	— 0.03	18.44	19 29 22.91	17.17
	O. Arg. S. 19909	47	37.6	39.6	40.9	51.4	52.4	53.7	55.0	56.2	6.8	8.0	10.3	36 53.81	+ 0.01	18.44	19 36 35.38	18.68
	O. Arg. N. 19614	48	44.1	47.9	50.3	8.0	9.8	12.0	14.4	16.3	34.5	37.0	41.1	42 12.31	— 0.36	18.44	19 41 53.51	7.69
	O. Arg. S. 20086	49	35.3	36.8	38.1	39.4	41.9	. .	48.5	51.3	52.4	54.0	55.4	49 15.31	— 0.24	—18.45	19 48 56.62	— 18.89

3. Very faint; through clouds.
15. Very faint; through clouds.
16. Through clouds.
25. Through clouds.

		s.
August 25–26,	. . . . n. =	— 0.03.
28–29,	7h. to 14h.	+ 0.03.
	18h. to 22h.	— 0.16.
29–30,	7h. to 14h.	0.00.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 25, 7.0	— 14.60	— 0.066	+ 0.060
29, 14.1	— 18.22	— 0.040	— 0.055

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 29	O. Arg. S. 20095	1	47. 3	48. 7	50. 1	51. 4	54. 0	. .	0. 5	3. 2	4. 5	6. 0	7. 4	49 27. 31	— 0. 24	—18. 45	19 49 8. 62	— 18. 89
Y.	* + 6° 38′	2	27. 5	29. 3	30. 7	40. 3	41. 4	42. 5	43. 7	44. 7	54. 3	55. 6	57. 7	53 42. 52	0. 07	18. 45	19 53 24. 00	16. 47
	Dorpat 2612, (1st *)	3	30. 0	31. 4	32. 6	33. 8	35. 1	. .	36. 5	39. 0	40. 1	41. 4	42. 8	55 6. 27	0. 31	18. 45	19 54 47. 51	15. 49
	Dorpat 2612, (2d *)	4	53. 3	55. 1	56. 4	5. 8	6. 9	8. 1	9. 3	10. 4	19. 8	21. 3	23. 4	55 8. 16	0. 07	18. 45	19 54 49. 64	15. 49
	Dorpat 2615	5	25. 8	28. 0	29. 2	38. 7	39. 7	40. 8	42. 0	43. 1	52. 9	54. 0	56. 2	56 40. 95	0. 08	18. 45	19 56 22. 42	15. 36
	Weisse 1512	6	4. 3	6. 5	7. 7	17. 5	18. 5	19. 8	21. 0	22. 0	32. 0	33. 3	35. 3	1 19. 81	0. 01	18. 46	20 1 1. 34	17. 60
	* — 14° 14′	7	0. 4	2. 6	3. 8	13. 6	14. 5	15. 7	16. 9	18. 0	28. 0	29. 3	31. 6	4 15. 85	0. 01	18. 46	20 3 57. 38	17. 55
	Weisse 81	8	18. 1	20. 2	21. 5	31. 1	32. 2	33. 4	34. 6	35. 8	45. 7	47. 0	49. 0	5 33. 51	0. 01	18. 46	20 5 15. 04	— 17. 55
	λ Ursæ Minoris	9	. .	. .	. .	. .	. .	. .	18. 5	29. 0	32. 0	40. 5	50. 0	30 22. 00	29 42. 87	18. 47	. . . .	+ 214. 64
	α^2 Capricorni	10	37. 6	. .	40. 8	50. 7	51. 6	52. 9	54. 2	55. 2	5. 0	. .	8. 3	10 52. 92	— 0. 02	18. 46	20 10 34. 44	— 17. 44
	Lacaille 8546	11	9. 1	11. 4	12. 9	23. 8	24. 9	26. 5	27. 8	29. 0	40. 2	41. 7	44. 0	37 26. 48	+ 0. 03	18. 47	20 36 8. 04	19. 32
	Lacaille 8574	12	4. 2	6. 5	8. 1	19. 0	20. 1	21. 5	23. 0	24. 2	35. 3	36. 8	39. 0	41 21. 61	0. 03	18. 48	20 41 3. 16	19. 25
	B. A. C. 7244	13	7. 9	10. 1	11. 5	21. 9	23. 0	24. 3	25. 7	27. 0	37. 5	38. 7	41. 0	46 24. 42	+ 0. 01	18. 49	20 46 5. 94	18. 47
	32 Vulpeculæ	†14	51. 3	53. 5	54. 8	5. 6	6. 8	8. 2	9. 5	10. 6	21. 5	22. 8	25. 1	49 8. 15	— 0. 15	18. 49	20 48 49. 51:	14. 02
	O. Arg. S. 21046	15	20. 9	22. 9	24. 3	34. 4	35. 4	36. 6	37. 9	39. 1	49. 5	50. 7	52. 8	54 36. 77	0. 00	18. 49	20 54 18. 26	17. 96
	O. Arg. S. 21053	16	8. 0	10. 0	11. 4	21. 5	22. 6	23. 8	25. 0	26. 2	36. 5	37. 7	39. 8	55 23. 86	0. 00	18. 49	20 55 5. 37	17. 96
	B. A. C. 7340	17	24. 9	27. 2	28. 5	38. 8	39. 8	41. 1	42. 5	43. 6	54. 2	55. 5	57. 7	1 41. 25	+ 0. 01	18. 50	21 1 22. 76	18. 85
	ζ Cygni	†18	14. 2	16. 3	17. 8	28. 8	29. 9	31. 2	32. 5	33. 6	45. 0	46. 2	48. 6	7 31. 28	— 0. 15	18. 50	21 7 12. 93:	14. 09
R.	α Canis Minoris	19	16. 8	18. 8	20. 0	29. 7	20. 6	31. 8	33. 0	34. 0	43. 7	44. 9	46. 9	32 31. 84	0. 06	18. 94	7 32 12. 84	14. 51
	β Geminorum	20	3. 7	5. 9	7. 2	18. 0	19. 2	20. 5	21. 9	33. 2	34. 0	35. 4	37. 7	37 20. 61	0. 06	18. 94	7 37 1. 61	16. 94
30	Sun II	21	58. 9	0. 9	2. 1	11. 8	12. 8	14. 0	15. 3	16. 3	26. 0	27. 4	29. 3	38 14. 07	0. 06	19. 10	10 37 54. 91	— 64. 41
	Venus I	22	23. 6	25. 6	26. 8	36. 3	37. 4	38. 6	39. 8	40. 9	50. 7	57. 8	53. 8	23 38. 66	0. 06	19. 14	11 23 19. 46	. .
	Venus II	23	3. 1	4. 6	5. 7	6. 9	9. 3	. .	10. 0	12. 3	13. 6	14. 9	16. 0	23 39. 64	— 0. 30	19. 14	11 23 20. 20	. .
	Mercury I	†24	47. 7	49. 5	50. 8	. .	. .	. .	. .	. .	. .	. .	. .	12 49. 33	+ 13. 22	19. 18	12 12 43. 37	+ 0. 25
	Polaris, S. P.	†25	. .	. .	. .	19. 0	38. 0	51. 0	0. 5	22. 0	. .	. .	. .	10 50. 10	+ 0. 29	19. 23	. . . .	— 148. 73
	α Virginis	†26	. .	. .	. .	. .	. .	. .	. .	. .	35. 0	36. 6	38. 7	18 36. 76	— 13. 58	19. 24	13 18 3. 94	14. 63
	ζ Aquilæ	†27	17. 1	19. 0	20. 5	30. 2	31. 2	32. 5	33. 7	34. 7	44. 8	46. 0	48. 1	59 32. 53	0. 09	19. 53	18 59 12. 91	14. 38
	20 Aquilæ	†28	26. 3	28. 3	29. 6	. .	. .	. .	. .	. .	53. 4	54. 6	56. 6	5 41. 47	0. 07	19. 54	19 5 21. 86	— 16. 82
	λ Ursæ Minoris	29	. .	. .	. .	. .	. .	. .	. .	27. 0	28. 0	37. 0	51. 0	31 5. 75	30 28. 68	19. 61	. . . .	+ 215. 46
	B. A. C. 7180	30	2. 0	3. 4	4. 8	6. 1	8. 7	. .	14. 5	17. 0	18. 5	19. 9	21. 3	38 41. 62	0. 25	19. 62	20 38 21. 75	— 18. 51
	μ Aquarii	31	27. 5	29. 5	30. 7	40. 3	41. 3	42. 6	43. 8	44. 9	54. 8	55. 9	57. 8	45 42. 65	— 0. 03	19. 62	20 45 23. 00	17. 05
	Lacaille 8658	32	52. 7	54. 9	56. 4	7. 2	8. 4	9. 8	11. 0	12. 4	23. 3	24. 8	27. 1	55 9. 82	+ 0. 03	19. 63	20 54 50. 22	18. 98
	Lacaille 8691	33	25. 6	27. 7	29. 2	39. 9	40. 9	42. 2	43. 7	44. 9	55. 8	57. 0	59. 4	59 42. 39	0. 02	19. 64	20 59 22. 77	18. 74
	O. Arg. S. 21162	34	16. 5	18. 5	19. 8	30. 2	31. 3	32. 6	33. 9	35. 0	45. 6	46. 8	49. 2	2 32. 67	+ 0. 01	19. 64	21 2 13. 04	18. 22
	ζ Cygni	35	15. 3	17. 7	18. 9	30. 0	31. 0	32. 4	33. 9	35. 1	46. 2	47. 8	50. 2	7 32. 59	— 0. 15	19. 64	21 7 12. 80	14. 09
Y. 31	O. Arg. S. 17443	36	31. 9	34. 0	35. 4	45. 5	46. 6	47. 8	49. 0	50. 3	0. 5	1. 8	4. 1	51 47. 90	0. 02	20. 34	17 51 27. 54	18. 12
	γ^2 Sagittarii	37	11. 4	13. 8	15. 1	26. 1	27. 3	28. 8	30. 1	31. 4	42. 5	43. 9	46. 3	57 28. 79	0. 00	20. 35	17 57 8. 44	19. 50
	* — 23° 9′	38	54. 9	57. 1	58. 4	8. 7	9. 8	11. 1	12. 5	13. 7	24. 0	25. 4	27. 5	5 11. 19	0. 02	20. 35	18 4 50. 82	18. 48
	* — 28° 46′	39	. .	. .	. .	3. 7	4. 9	6. 3	7. 5	8. 8	19. 7	21. 2	23. 5	8 11. 95	5. 66	20. 35	18 7 45. 94	— 19. 32
	δ Ursæ Minoris	40	16. 5	48. 5	10. 0	. .	. .	. .	. .	. .	47. 2	7. 5	43. 0	16 28. 78	3. 29	20. 36	. . . .	+ 85. 12
	1 Aquilæ	41	57. 4	59. 4	0. 6	10. 1	11. 1	12. 3	13. 6	14. 7	24. 4	25. 6	27. 7	28 12. 45	0. 04	20. 37	18 27 52. 04	— 16. 68
	O. Arg. S. 18505	42	9. 0	10. 4	11. 8	13. 2	15. 9	. .	22. 3	25. 2	26. 4	27. 8	29. 4	31 49. 14	0. 27	20. 37	18 31 28. 50	18. 92
	O. A. S. 18506, (1st *)	43	36. 0	38. 0	39. 4	. .	. .	. .	. .	. .	5. 5	6. 7	8. 9	31 52. 42	0. 05	20. 37	18 31 32. 00	18. 92
	O. A. S. 18506, (2d *)	44	. .	. .	. .	50. 3	51. 3	52. 6	54. 0	55. 3	. .	. .	. .	31 52. 70	0. 04	20. 37	18 31 32. 37	18. 92
	O. Arg. S. 18564	45	29. 3	31. 3	32. 7	42. 9	43. 9	45. 0	46. 3	47. 5	57. 8	59. 1	1. 1	34 45. 17	0. 02	20. 37	18 34 24. 78	18. 21
	O. Arg. S. 18604	46	16. 2	18. 4	19. 7	29. 7	30. 8	32. 0	33. 4	34. 4	44. 8	46. 0	48. 0	36 32. 13	0. 02	20. 37	18 36 11. 74	18. 09
	Lalande 34860	47	21. 5	23. 5	24. 9	34. 9	36. 0	37. 3	38. 4	39. 6	49. 8	51. 0	53. 2	40 37. 28	0. 02	20. 38	18 40 16. 88	18. 09
	* — 19° 18′	48	43. 7	45. 7	47. 0	57. 2	58. 3	59. 5	0. 7	1. 9	12. 0	13. 2	15. 2	41 57. 49	0. 02	20. 38	18 41 37. 09	18. 08
	B. A. C. 6414	49	19. 7	20. 9	22. 2	23. 7	24. 8	. .	57. 5	0. 4	1. 8	3. 3	4. 8	44 41. 91	19. 58	20. 38	18 44 1. 95	19. 75
	σ Sagittarii	50	57. 6	59. 9	1. 3	11. 8	13. 0	14. 4	15. 8	16. 8	27. 7	28. 9	31. 2	47 14. 40	— 0. 01	—20. 38	18 46 54. 01	— 19. 07

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Aug. 30, 14.9	— 19. 32	— 0. 052	— 0. 055
31, 19.6	— 20. 42	— 0. 046	. .

14. Unsteady.
18. Unsteady.
22–23. Unsteady.
24. Through clouds.
25. With clock beat.
26. Through clouds.
27. Throw out two stars before this.
28. Very faint; through clouds.

		s.
August 29–30,	7h. to 14h. n. =	0. 00.
30,	19h. to 22h.	— 0. 16.
31,	17h. to 19h.	0. 10.
	19h. to 20h.	0. 13.
	20h. to 22h.	— 0. 20.

August 30. Night cloudy.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Aug. 31	O. Arg. S. 18916 .	1	35. 1	37. 3	38. 7	48. 9	49. 9	51. 3	52. 4	53. 7	4. 1	5. 4	7. 5	51 51. 30	— 0. 02	—20. 39	18 51 30. 89	— 18. 46
Y.	ζ Sagittarii . . .	2	4. 8	7. 0	8. 4	19. 3	20. 5	21. 8	23. 4	24. 6	35. 8	37. 0	39. 4	54 22. 00	0. 00	20. 39	18 54 1. 61	19. 62
	B. A. C. 6505 . .	3	32. 6	34. 7	36. 2	46. 6	47. 8	49. 2	50. 4	51. 7	2. 2	3. 4	5. 7	56 49. 14	0. 01	20. 39	18 56 28. 74	18. 94
	B. A. C. 6531 . .	4	39. 9	42. 0	43. 4	53. 8	54. 8	56. 1	57. 5	58. 8	9. 6	10. 7	13. 1	59 56. 34	— 0. 01	20. 39	18 59 35. 94	19. 01
	B. A. C. 2320, S. P.	5	. .	. .	. .	47. 0	48. 0	43. 0	36. 0	38. 0	. .	. .	. .	15 42. 40	+ 6. 24	20. 40	7 15 28. 24	319. 75
	O. Arg. S. 19685 .	6	45. 9	48. 0	49. 4	0. 2	1. 4	2. 7	4. 0	5. 0	16. 3	17. 4	19. 6	25 2. 72	— 0. 01	20. 41	19 24 42. 30	19. 19
	O. Arg. S. 19694 .	7	40. 0	42. 0	43. 4	54. 4	55. 5	56. 8	58. 1	59. 2	10. 2	11. 4	13. 8	25 56. 80	0. 01	20. 41	19 25 36. 38	19. 20
	O. Arg. S. 19708 .	8	. .	. .	. .	22. 6	23. 7	25. 0	26. 3	27. 5	38. 4	39. 6	41. 9	26 30. 62	5. 60	20. 41	19 26 4. 61	19. 20
	O. Arg. S. 19713 .	9	. .	. .	. .	30. 6	31. 6	32. 9	34. 3	35. 4	46. 3	47. 8	50. 0	26 38. 61	5. 60	20. 41	19 26 12. 60	19. 20
	κ Aquilæ	10	43. 7	45. 7	46. 8	56. 4	57. 4	58. 6	59. 8	0. 8	10. 5	11. 8	13. 8	29 58. 66	0. 04	20. 41	19 29 38. 21	16. 78
	O. Arg. S. 19909 .	11	39. 5	41. 6	42. 9	53. 4	54. 4	55. 8	57. 0	58. 1	8. 7	9. 9	12. 1	36 55. 76	0. 02	20. 42	19 36 35. 32	18. 66
	O. Arg. S. 20030 .	12	50. 9	53. 1	54. 3	4. 8	5. 9	7. 2	8. 4	9. 6	20. 0	21. 3	23. 6	45 7. 19	0. 02	20. 42	19 44 46. 75	18. 64
	B. A. C. 6814 . .	13	. .	. .	. .	46. 3	47. 9	50. 0	6. 6	9. 3	10. 7	12. 0	13. 4	47 2. 02	28. 57	20. 43	19 46 13. 02	18. 73
	B. A. C. 6829 . .	14	. .	. .	. .	. .	. .	. .	15. 3	18. 0	19. 4	21. 0	22. 5	49 19. 24	39. 23	20. 43	19 48 19. 58	19. 63
	B. A. C. 6841 . .	15	30. 1	32. 5	33. 9	44. 9	46. 0	47. 6	48. 9	50. 1	1. 4	2. 6	5. 1	50 47. 55	0. 00	20. 43	19 50 27. 12	19. 62
	Dorpat 2613 (1st *)	16	6. 2	8. 2	9. 5	19. 2	20. 2	21. 5	22. 7	23. 8	33. 4	34. 6	36. 8	55 21. 46	0. 07	20. 43	19 55 0. 96	15. 10
	Dorpat 2613 (2d *)	17	44. 9	46. 3	47. 6	48. 8	51. 2	. .	52. 3	54. 6	55. 9	57. 3	58. 6	55 21. 75	0. 31	20. 43	19 55 1. 01	15. 10
	Weisse 1394 . .	18	. .	. .	. .	3. 7	4. 7	5. 9	7. 0	8. 1	17. 9	19. 1	21. 0	56 10. 92	5. 11	20. 43	19 55 45. 38	— 15. 09
	λ Ursæ Minoris . .	19	. .	. .	. .	53. 0	45. 0	47. 0	51. 0	45. 0	. .	. .	. .	0 48. 20	10. 45	20. 44	. . . .	+ 216. 46
	Weisse 81 . . .	20	. .	. .	. .	47. 6	48. 8	51. 0	6. 5	9. 2	10. 3	11. 6	13. 0	6 2. 25	26. 85	20. 44	20 5 14. 96	— 17. 54
	Weisse 122 . . .	21	. .	. .	. .	9. 9	11. 2	13. 1	28. 8	31. 2	32. 6	33. 8	35. 2	7 24. 48	— 26. 86	20. 44	20 6 37. 18	17. 52
	O. Arg. S. 20370 .	22	7. 0	9. 3	10. 7	21. 3	22. 3	23. 6	24. 9	26. 0	36. 7	38. 1	40. 4	10 23. 66	+ 0. 03	20. 45	20 10 3. 24	18. 79
	O. Arg. S. 20393 .	23	. .	. .	. .	9. 4	10. 5	12. 8	29. 6	32. 3	33. 5	34. 9	36. 5	12 28. 69	— 28. 69	20. 45	20 11 39. 55	18. 74
	Lacaille 8517 . .	24	54. 4	56. 8	58. 2	9. 8	10. 9	12. 4	13. 8	15. 0	26. 6	28. 0	30. 7	32 12. 42	+ 0. 07	20. 46	20 31 52. 03	19. 75
	O. Arg. S. 20765 .	25	39. 0	41. 1	42. 5	53. 0	54. 1	55. 4	56. 6	57. 9	8. 5	9. 8	12. 0	35 55. 45	0. 03	20. 47	20 35 35. 01	18. 62
	O. Arg. S. 20827 .	26	37. 0	39. 3	40. 6	51. 2	52. 3	53. 6	54. 8	55. 9	6. 7	7. 9	10. 3	38 53. 60	0. 03	20. 47	20 38 33. 16	18. 63
	Lacaille 8585 . .	27	23. 0	25. 2	26. 6	38. 0	39. 3	40. 6	41. 9	43. 2	54. 8	56. 0	58. 4	42 40. 64	0. 06	20. 47	20 42 20. 23	19. 42
	μ Aquarii	28	28. 2	30. 2	31. 6	41. 2	42. 1	43. 4	44. 6	45. 7	55. 5	56. 6	58. 6	45 43. 43	0. 02	20. 47	20 45 22. 94	17. 05
	Lacaille 8642 . .	29	9. 8	12. 3	13. 8	25. 3	26. 3	27. 8	29. 1	30. 5	42. 1	43. 5	46. 0	53 27. 86	0. 07	20. 48	20 53 7. 45	19. 46
	Lacaille 8681 . .	30	3. 4	5. 8	7. 3	18. 9	20. 0	21. 6	23. 2	24. 4	36. 0	37. 5	40. 0	58 21. 65	0. 08	20. 48	20 58 1. 25	19. 63
	Lacaille 8693 . .	31	12. 4	14. 8	16. 5	28. 4	29. 6	31. 3	32. 8	34. 0	46. 2	47. 7	50. 3	0 31. 27	0. 09	20. 48	21 0 10. 88	19. 96
	Lacaille 8722 . .	32	24. 9	27. 3	28. 9	40. 7	42. 0	43. 4	44. 9	46. 1	58. 0	59. 6	2. 1	4 43. 45	0. 08	20. 49	21 4 23. 04	19. 70
	Lacaille 8742 . .	33	24. 7	27. 1	28. 6	40. 4	41. 6	43. 0	44. 6	45. 8	58. 0	59. 4	2. 1	7 43. 21	0. 08	20. 49	21 7 22. 80	19. 72
	Lacaille 8791 . .	34	9. 9	12. 6	13. 9	26. 4	27. 5	29. 0	30. 5	31. 8	44. 4	45. 6	48. 2	15 29. 07	0. 09	20. 50	21 15 8. 66	19. 81
	B. A. C. 7432 . .	35	58. 2	0. 7	2. 5	14. 4	15. 7	17. 2	18. 7	20. 1	32. 4	33. 8	36. 6	18 17. 30	0. 09	20. 50	21 17 56. 89	19. 78
	Lacaille 8823 . .	36	. .	10. 9	12. 6	24. 7	25. 9	27. 5	29. 0	30. 4	42. 9	44. 2	. .	21 27. 57	0. 10	20. 50	21 21 7. 17	19. 76
	Lacaille 8846 . .	37	25. 2	27. 7	29. 2	41. 3	42. 5	44. 0	44. 5	46. 8	58. 9	0. 4	2. 9	26 44. 04	0. 09	20. 50	21 26 23. 63	19. 50
	* — 36° 30′ . .	38	39. 2	41. 5	42. 9	55. 1	56. 3	57. 8	59. 4	0. 6	12. 6	14. 0	16. 5	28 57. 81	0. 08	20. 51	21 28 37. 38	19. 37
	Lacaille 8854 . .	39	45. 7	48. 2	49. 8	1. 6	2. 9	4. 4	5. 8	7. 0	19. 1	20. 5	23. 0	29 4. 36	0. 08	20. 51	21 28 43. 93	19. 37
	Lacaille 8873 . .	40	22. 5	24. 8	26. 4	38. 0	39. 2	40. 6	42. 0	43. 4	55. 0	56. 5	59. 0	32 40. 67	+ 0. 08	20. 51	21 32 20. 24	19. 15
	Lacaille 8887 . .	41	. .	. .	. .	48. 0	49. 5	52. 3	11. 6	14. 7	16. 2	17. 8	19. 6	35 6. 21	— 33. 18	20. 51	21 34 12. 52	19. 52
	Lacaille 8896 . .	42	. .	. .	. .	. .	. .	. .	10. 7	13. 6	15. 5	17. 0	18. 9	37 15. 14	43. 32	20. 51	21 36 11. 31	19. 56
	Lacaille 8900 . .	43	. .	. .	. .	. .	. .	. .	39. 7	42. 9	44. 4	46. 2	48. 1	37 44. 26	43. 25	20. 51	21 36 40. 50	19. 54
	Lacaille 8915 . .	44	. .	. .	. .	56. 6	58. 0	0. 5	20. 1	23. 2	24. 7	26. 2	28. 0	40 14. 66	33. 19	20. 52	21 39 20. 95	19. 43
	μ Capricorni . . .	45	1. 9	4. 0	5. 3	15. 2	16. 2	17. 6	18. 7	19. 7	29. 6	30. 9	33. 0	46 17. 46	0. 01	20. 52	21 45 56. 93	17. 33
R.	α Hydræ	†46	1. 9	3. 8	5. 2	14. 7	15. 7	17. 0	18. 0	19. 0	28. 9	30. 0	32. 0	21 16. 93	0. 06	21. 07	9 20 55. 80	13. 35
Sept. 1	Sun II	†47	16. 7	18. 5	19. 8	29. 5	30. 5	31. 7	33. 0	34. 0	43. 8	45. 0	47. 1	45 31. 78	0. 05	21. 13	10 45 10. 60	— 64. 32
R.	Venus I	†48	10. 2	11. 2	12. 7	13. 8	16. 1	. .	16. 5	19. 0	20. 3	21. 5	23. 0	32 46. 43	0. 29	21. 17	11 32 24. 97	. .
	Venus II . . .	†49	31. 9	33. 7	35. 3	44. 7	45. 7	46. 9	48. 0	49. 2	58. 8	0. 1	2. 2	32 46. 95	0. 05	21. 17	11 32 25. 73	. .
	Mercury I . . .	†50	15. 4	17. 3	18. 6	28. 1	29. 3	30. 3	31. 5	32. 5	42. 1	43. 4	45. 5	18 30. 36	— 0. 06	—21. 20	12 18 9. 10	+ 0. 26

46. Very faint.
47. Flaming and unsteady.
48–49. Unsteady.
50. Unsteady.

August 31–September 1, 9h. to 14h. n. = + 0.06 s.
20h. to 22h. — 0.08.

August 31. Image west 0.08 r. Clamp east.
September 1. Cloudy; stars faint.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Sept. 1, 17.8	— 21.44	— 0.043	0.055

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. Sept. 1	Polaris, S. P.	1	. .	. .	. .	26.0	45.0	56.0	7.0	23.0	. .	. .	. .	10 55.40	— 2.13	—21.24	13 10 32.03	— 149.70
R.	α Virginis	2	9.9	12.1	13.4	23.0	24.0	25.2	26.4	27.6	37.3	38.4	40.4	18 25.25	0.07	21.25	13 18 3.93	— 14.60
	λ Ursæ Minoris	3	. .	. .	. .	43.0	40.0	42.0	46.0	42.0	. .	. .	. .	0 42.60	4.59	21.53	. . . .	+ 217.31
	ε Delphini	4	53.0	55.0	56.3	6.0	7.0	8.3	9.5	10.5	20.5	21.5	23.6	27 8.29	0.07	21.55	20 27 46.67	— 15.24
	Weisse 743	5	0.7	2.9	4.0	13.5	14.5	15.7	16.9	17.9	27.5	28.7	30.7	30 15.73	0.06	21.56	20 29 54.12	16.05
	Weisse 905	6	4.6	6.6	7.8	17.2	18.3	19.5	20.6	21.6	31.3	32.5	34.5	36 19.50	0.06	21.56	20 35 57.88	16.01
	Weisse 1057	7	45.4	47.2	48.5	58.0	59.0	0.2	1.3	2.4	12.0	13.1	15.3	42 0.22	0.06	21.56	20 41 38.60	15.98
	μ Aquarii	8	29.6	31.5	32.5	42.5	43.4	44.7	45.9	46.9	56.6	58.0	0.0	45 44.69	0.04	21.57	20 45 23.08	17.04
	β Aquarii	9	34.5	36.4	37.9	47.2	48.3	49.3	50.6	51.7	1.5	2.6	4.8	24 49.53	0.05	21.60	21 24 7.88	16.74
	B. A. C. 7492	10	38.5	40.6	42.0	52.4	53.4	54.7	56.0	57.1	7.6	9.1	11.1	27 54.77	0.02	21.60	21 27 33.15	18.11
	Lacaille 8870	11	21.4	23.5	25.0	35.6	36.7	38.1	39.5	40.5	51.5	52.8	55.4	31 38.18	0.02	21.60	21 31 16.56	18.42
	Lacaille 8891	12	19.6	22.0	23.4	34.2	35.4	36.7	38.0	39.2	50.4	51.5	53.8	34 36.75	0.02	21.60	21 34 15.13	18.42
	Lacaille 8907	13	44.0	46.2	47.7	58.5	59.5	0.9	2.4	3.6	14.4	15.8	18.3	38 1.04	0.02	21.60	21 37 39.42	18.43
	Lacaille 8941	14	49.7	51.7	53.2	3.5	4.6	5.8	7.1	8.5	18.9	20.2	22.5	44 5.97	0.02	21.61	21 43 44.34	17.94
	μ Capricorni	15	3.2	5.0	6.3	16.1	17.3	18.5	19.7	20.8	30.9	32.0	34.0	46 18.50	— 0.04	—21.61	21 45 56.85	17.33
Y. 2	Sun I	16	46.4	48.3	49.6	59.1	0.1	0.5	2.7	3.7	13.4	14.7	16.6	47 1.46	. .	. .	. . . .	. .
	Sun II	17	54.9	56.7	58.1	7.8	8.8	9.8	11.1	12.3	22.0	23.1	25.0	49 9.96	. .	. .	. . . .	. .
	λ Ursæ Minoris	18	58.0	13.0	17.0	19.0	23.0	. .	. .	. .	. .	. .	. .	30 26.00	+29 55.66	. .	. . . .	. .
	β Aquilæ	†19	. .	. .	. .	45.4	46.4	47.5	48.7	49.7	. .	. .	. .	47 47.54	— 0.02	. .	. . . .	15.47
	α² Capricorni	†20	25.0	27.0	28.3	38.0	39.0	40.2	41.4	42.4	52.4	53.5	55.6	9 40.25	— 0.02	. .	. . . .	17.41
Oct. 20	Polaris	†21	37.0	57.5	48.5	11.0	52.0	42.0	28.0	10.0	27.0	22.0	40.0	10 40.60	+ 1.01	+ 6.65	1 10 48.26	163.81
	γ Ceti	22	58.4	0.2	1.7	11.1	12.1	13.3	14.4	15.5	25.1	26.2	28.4	36 13.31	— 0.15	6.58	2 36 19.74	16.81
	α Ceti	23	53.4	55.4	56.7	6.0	7.1	8.3	9.6	10.6	20.3	21.4	23.5	55 8.39	0.15	6.57	2 55 14.81	16.92
	Polaris, S. P.	24	. .	. .	. .	13.0	32.0	43.0	56.0	12.0	. .	. .	. .	10 43.20	1.01	6.07	1 10 48.26	163.76
21	α Ophiuchi	25	18.2	20.2	21.6	31.2	32.3	33.5	34.7	35.9	45.6	46.9	49.0	28 33.55	0.14	5.87	. . . .	— 13.09
	δ Ursæ Minoris	26	26.0	59.0	20.0	0.0	17.0	37.0	57.7	15.5	58.2	18.0	52.7	15 38.28	0.14	5.83	. . . .	+ 106.22
24	Polaris, S. P.	27	. .	. .	. .	13.0	29.5	42.5	54.0	11.5	. .	. .	. .	10 42.10	0.79	3.17	1 10 44.48	— 163.09
	α Virginis	28	. .	. .	. .	13.0	14.1	16.3	31.5	33.9	35.3	36.6	38.0	18 27.34	26.66	3.17	13 18 3.85	— 14.62
	Mercury I	29	21.0	23.0	24.4	. .	. .	. .	. .	. .	48.1	49.3	51.4	25 36.20	0.23	3.17	13 25 39.14	. .
	Mercury II	30	. .	. .	. .	34.2	35.2	36.4	37.5	38.6	. .	. .	. .	25 36.38	0.14	3.17	13 25 39.41	. .
25	Sun I	31	59.0	0.9	2.3	12.0	13.0	14.4	15.6	16.7	26.3	27.7	29.8	0 14.34	— 0.20	3.17	14 0 17.31	. .
	Venus I	†32	48.5	49.9	51.3	52.5	55.0	. .	. .	. .	. .	. .	. .	44 51.44	+ 35.30	3.16	15 45 29.90	+ 0.41
	α Herculis	33	10.2	12.2	13.5	23.3	24.4	25.6	26.8	27.9	37.9	38.9	41.1	8 25.62	— 0.14	3.15	17 8 28.63	— 12.70
	α Ophiuchi	34	20.9	23.0	24.3	33.9	35.0	36.2	37.5	38.6	48.5	49.5	51.6	28 36.27	0.14	3.14	17 28 39.27	13.03
	δ Ursæ Minoris	35	26.5	59.5	21.5	2.0	19.0	39.2	59.2	16.0	59.2	19.0	53.5	15 39.51	0.48	3.14	18 15 42.17	. .
	α Lyræ	36	59.3	1.8	3.5	15.5	16.8	18.4	19.9	21.2	33.5	35.0	37.7	32 18.42	0.10	3.14	18 32 21.46	9.48
	B. A. C. 7665	37	27.4	29.6	30.9	40.9	41.9	43.1	44.4	45.4	55.7	56.9	59.0	54 43.20	0.21	3.12	21 54 46.11	16.99
	α Aquarii	38	33.5	35.5	36.8	46.2	47.2	48.5	49.6	50.7	0.3	1.6	3.6	58 48.50	0.17	3.12	21 58 51.45	15.99
	36 Aquarii	39	0.7	2.8	4.0	13.7	14.6	15.9	17.1	18.1	28.0	29.0	31.2	2 15.92	0.18	3.12	22 2 18.86	16.42
	* — 26° 24′	40	13.3	15.4	17.0	27.4	28.6	29.9	31.3	32.3	43.0	44.4	46.8	7 29.95	0.24	3.12	22 7 32.83	17.36
	Weisse 331	41	38.9	40.9	42.3	51.9	52.8	54.1	55.4	56.4	6.2	7.3	9.5	16 54.15	0.19	3.12	22 16 57.08	16.57
	Weisse 346	42	. .	. .	. .	15.9	16.9	18.2	19.4	20.5	30.3	31.5	33.5	17 23.28	5.25	3.12	22 17 21.15	16.57
	35 Pegasi	43	44.3	46.1	47.5	57.0	57.9	59.1	0.3	1.3	11.0	12.1	14.2	20 59.16	0.16	3.12	22 21 2.12	15.89
	Lacaille 9159	44	. .	. .	. .	. .	. .	. .	55.4	58.3	59.8	1.3	2.6	23 59.48	39.80	3.12	22 23 22.80	17.61
	O. Arg. S. 22237	45	3.3	5.4	6.7	16.8	17.9	19.3	20.6	21.5	31.9	33.1	35.4	22 19.26	0.22	3.12	22 27 22.16	16.96
	O. Arg. S. 22291	46	34.0	36.3	37.7	48.4	49.5	50.9	52.2	53.4	4.4	5.7	7.8	30 50.94	0.24	3.11	22 30 53.81	17.29
	ε Piscis Australis	47	51.6	53.8	55.3	6.0	7.1	8.4	9.9	11.0	21.8	23.2	25.6	33 8.52	0.24	3.11	22 33 11.39	17.28
	O. Arg. S. 22373	48	44.4	46.6	48.0	58.6	59.7	0.9	2.3	3.4	14.3	15.7	18.0	37 1.10	0.24	3.11	22 37 33.97	17.21
	Lacaille 9269	49	38.6	40.8	42.2	52.6	53.6	55.0	56.2	57.5	8.0	9.3	11.5	41 55.03	— 0.23	+ 3.11	22 41 57.91	— 17.02

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	s.
h.	s.	s.	s.
Sept. 2, 20.0	+ 54.16	. .	— 0.055
Oct. 20, 2.8	6.57	— 0.048	0.153
21, 17.5	5.87	0.048	— 0.168
25, 21.6	+ 3.12	— 0.006	. .

1. Faint and unsteady. 19–20. Cloudy. 21. Reduced from set C. 32. Cloudy.

September 2, 19h. to 21h. n. = — 0.16 s.

September 2, 17h. Found the cord of clock weight broken; started the clock again at 19h.

September 2, 20h. 30m. Image west 0.10 r. Clamp east.
Image west 0.09. Clamp west.

September 2 to October 20. The instrument was being dismounted and remounted in the east room.

October 20. Adjusted the collimation, and from the passage of Polaris over set A adjusted the azimuth.

October 20 . . . . . n. = + 0.13 s.
21 . . . . 0.16.
24–25, 13h. to 19h. 0.14.
25, 21h. to 3h. + 0.10.

October 24, 0h. 30m. Image east 0.09 r. Clamp east.
Image east 0.31. Clamp west.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. Oct. 25 Y.	λ Aquarii	1	16. 8	18. 8	20. 0	29. 6	30. 6	31. 9	33. 1	34. 2	43. 8	45. 1	47. 3	45 31. 93	− 0. 18	+ 3. 11	22 45 34. 86	− 16. 41
	Lalande 45137 . .	2	46. 1	48. 1	49. 4	59. 4	0. 5	1. 8	3. 0	4. 1	14. 3	15. 6	17. 7	58 1. 82	0. 21	3. 11	22 58 4. 72	16. 70
	Lalande 45473 . .	3	5. 5	7. 7	8. 9	19. 0	20. 1	21. 4	22. 6	23. 7	34. 0	35. 3	37. 4	7 21. 42	0. 21	3. 11	23 7 24. 32	16. 70
	Lacaille 9440 . .	4	40. 0	42. 6	44. 4	56. 5	57. 8	59. 5	1. 0	2. 3	14. 9	16. 5	19. 0	11 59. 50	0. 30	3. 11	23 12 2. 31	17. 34
	O. Arg. S. 22817 .	5	1. 6	3. 8	5. 0	15. 0	16. 0	17. 3	18. 6	19. 5	29. 8	31. 0	33. 2	17 17. 35	0. 21	3. 11	23 17 20. 25	16. 60
	B. A. C. 8184 . .	6	. .	. .	. .	29. 0	30. 0	31. 2	32. 3	33. 4	43. 0	44. 3	46. 3	22 36. 19	5. 16	3. 11	23 22 34. 14	16. 39
	O. Arg. S. 22911 .	7	15. 7	17. 7	19. 0	29. 0	30. 0	31. 3	32. 5	33. 6	43. 8	45. 0	47. 0	27 31. 33	− 0. 21	3. 11	23 27 34. 23	16. 55
	Weisse 613 . . .	8	3. 5	5. 7	6. 9	16. 4	17. 3	18. 5	19. 7	20. 8	. .	. .	. .	30 13. 60	+ 4. 82	3. 11	23 30 21. 53	16. 36
	ι Piscium	9	56. 2	57. 3	58. 5	59. 6	0. 7	. .	28. 9	31. 3	32. 5	33. 8	35. 1	33 15. 39	− 17. 02	3. 11	23 33 1. 48	16. 48
	Lacaille 98 . . .	10	23. 3	25. 5	27. 0	38. 0	39. 1	40. 4	41. 7	42. 9	54. 2	55. 4	57. 8	21 40. 48	0. 25	3. 10	0 21 43. 33	16. 06
	Neptune	11	0. 7	2. 7	4. 0	13. 5	14. 4	15. 6	16. 8	17. 9	27. 5	28. 7	30. 7	25 15. 68	0. 17	3. 10	0 25 18. 61	. .
	Lacaille 142 . .	12	5. 5	7. 8	9. 1	19. 5	20. 5	21. 8	23. 1	24. 3	34. 8	36. 0	38. 3	29 21. 88	0. 23	3. 10	0 29 24. 75	16. 07
	Lacaille 169 .	13	35. 9	38. 3	39. 6	50. 6	51. 7	53. 2	54. 5	55. 7	6. 9	8. 3	10. 6	33 53. 21	0. 25	3. 10	0 33 56. 06	15. 90
	β Ceti	14	31. 2	33. 2	34. 6	44. 6	45. 6	46. 9	48. 1	49. 2	59. 4	0. 7	2. 8	36 46. 94	0. 21	3. 10	0 36 49. 83	16. 17
	Lacaille 210 . .	15	43. 5	45. 8	47. 2	58. 4	59. 5	1. 0	2. 3	3. 5	14. 7	16. 2	18. 5	40 0. 97	0. 26	3. 10	0 40 3. 81	15. 78
	Weisse 742 . . .	16	13. 1	15. 1	16. 4	25. 8	26. 9	28. 2	29. 2	30. 1	40. 2	41. 1	43. 3	43 28. 13	0. 16	3. 10	0 43 31. 07	16. 78
	* + 1° 17′ . . .	17	47. 0	48. 9	50. 1	59. 7	0. 8	2. 0	3. 0	4. 2	13. 9	15. 0	17. 0	47 1. 96	0. 17	3. 10	0 47 4. 89	16. 63
	Weisse 871 . . .	18	28. 7	30. 8	32. 1	41. 6	42. 7	43. 8	45. 0	46. 0	55. 7	56. 8	58. 8	50 43. 82	0. 17	3. 10	0 50 46. 75	16. 64
	Lalande 1737 . .	19	22. 8	24. 8	26. 2	35. 7	36. 7	38. 0	39. 1	40. 2	50. 0	51. 2	53. 3	53 38. 00	0. 16	3. 10	0 53 40. 94	16. 92
	Santini O, 58 . .	20	. .	. .	. .	36. 2	37. 2	38. 4	39. 6	40. 7	50. 5	51. 6	53. 7	55 43. 49	5. 17	3. 10	0 55 41. 42	16. 92
	Lacaille 301 . .	21	0. 4	1. 6	2. 9	4. 3	5. 4	. .	37. 1	39. 7	41. 1	42. 6	44. 3	59 21. 94	19. 21	3. 10	0 59 5. 83	15. 64
	Weisse 20 . . .	22	59. 6	1. 8	3. 8	12. 6	13. 6	14. 8	15. 9	17. 1	26. 7	27. 9	29. 9	3 14. 88	0. 16	3. 10	1 3 17. 82	16. 71
	Polaris	23	. .	. .	. .	16. 0	58. 5	40. 0	33. 0	16. 0	. .	. .	. .	10 44. 70	0. 84	3. 10	1 10 46. 96	162. 98
	Ceres	24	50. 5	52. 7	53. 9	3. 5	4. 5	5. 7	6. 8	7. 9	17. 6	18. 8	20. 7	18 5. 69	0. 18	3. 10	1 18 8. 61	. .
	* — 2° 31′ . . .	25	46. 4	48. 5	49. 9	59. 3	0. 3	1. 5	2. 6	3. 6	13. 4	14. 5	16. 6	27 1. 51	0. 17	3. 10	1 27 4. 44	16. 53
	ν Piscium	†26	8. 0	10. 0	11. 1	20. 7	21. 6	22. 8	23. 8	25. 0	34. 8	36. 0	38. 0	34 22. 89	0. 16	3. 10	1 34 25. 83	16. 91
	Santini 102 . . .	27	18. 5	20. 5	21. 8	31. 6	32. 5	33. 7	35. 0	36. 0	45. 7	46. 8	49. 0	41 33. 74	0. 16	3. 10	1 41 36. 68	17. 09
	Weisse 807 . . .	28	30. 7	32. 8	34. 0	43. 8	45. 0	46. 2	47. 3	48. 4	58. 3	59. 6	1. 6	45 46. 15	0. 15	3. 09	1 45 49. 09	17. 58
	O. Arg. S. 1256 .	29	7. 9	10. 0	11. 5	22. 2	23. 3	24. 6	25. 8	27. 1	38. 0	39. 5	41. 6	56 24. 68	0. 24	3. 09	1 56 27. 53	14. 95
	O. Arg. S. 1344 .	30	32. 3	34. 5	35. 9	46. 3	47. 3	48. 5	49. 9	51. 2	1. 5	2. 9	5. 1	2 48. 67	0. 23	3. 09	2 2 51. 53	15. 14
	Weisse 56 . . .	31	. .	. .	. .	13. 8	14. 9	16. 2	17. 4	18. 3	. .	. .	. .	5 16. 12	0. 10	3. 09	2 5 19. 11	17. 48
	Weisse 61 . . .	32	57. 5	59. 0	0. 2	1. 4	3. 8	. .	4. 9	7. 5	8. 8	10. 0	11. 4	5 34. 45	0. 39	3. 09	2 5 37. 15	17. 48
	67 Ceti	33	58. 3	0. 3	1. 6	11. 2	12. 1	13. 3	14. 5	15. 6	25. 4	26. 5	28. 5	10 13. 39	0. 18	3. 09	2 10 16. 30	16. 24
	Weisse (2) 587 . .	34	3. 7	5. 1	6. 4	7. 7	10. 3	. .	14. 9	17. 5	18. 8	20. 2	21. 6	24 42. 62	0. 40	3. 09	2 24 45. 31	18. 52
	Amphitrite . . .	35	32. 1	33. 5	35. 0	36. 3	38. 6	. .	43. 2	45. 8	47. 0	48. 5	50. 0	25 11. 00	0. 40	3. 09	2 25 13. 69	. .
	γ Ceti	36	2. 0	4. 0	5. 2	14. 6	15. 7	16. 8	17. 9	19. 1	28. 8	29. 8	32. 0	36 16. 90	0. 16	3. 09	2 36 19. 83	16. 86
28	Polaris, S. P. . .	37	. .	. .	. .	29. 0	47. 5	58. 5	11. 0	27. 0	. .	. .	. .	10 58. 60	15. 43	2. 86	1 10 46. 03	162. 44
	α Virginis	38	. .	. .	. .	13. 5	14. 6	16. 6	32. 0	34. 6	35. 7	37. 0	38. 4	18 27. 80	26. 72	2. 86	13 18 3. 94	− 14. 68
	Mercury (centre) .	39	4. 0	6. 0	7. 4	17. 2	18. 2	19. 4	20. 7	21. 7	31. 5	32. 5	34. 9	50 19. 41	0. 26	2. 83	13 50 21. 98	. .
29	Sun I	40	26. 9	28. 9	30. 2	39. 8	40. 8	42. 0	43. 4	44. 5	54. 4	56. 6	57. 8	15 42. 30	0. 30	2. 81	14 15 44. 81	. .
	Sun II	41	40. 2	42. 0	43. 4	53. 2	54. 3	55. 5	56. 8	57. 9	7. 7	9. 0	11. 2	17 55. 56	0. 30	2. 81	14 17 58. 07	. .
	Venus I . . .	42	45. 8	47. 9	49. 2	59. 4	0. 4	1. 8	3. 0	4. 3	14. 6	16. 0	18. 2	6 1. 87	0. 38	2. 73	16 6 4. 22	+ 0. 42
	α Ophiuchi . . .	43	21. 3	23. 4	24. 7	34. 3	35. 4	36. 6	37. 9	38. 9	48. 7	50. 0	52. 0	28 36. 65	− 0. 06	2. 67	17 28 39. 26	− 12. 99
	δ Ursæ Minoris . .	44	. .	. .	. .	53. 8	11. 2	31. 5	51. 5	9. 0	. .	. .	. .	15 31. 20	+ 6. 40	2. 64	18 15 40. 24	. .
	α Lyræ	45	59. 3	1. 9	3. 6	15. 6	16. 9	18. 5	20. 0	21. 4	33. 7	35. 2	37. 8	32 18. 54	+ 0. 19	2. 63	18 32 21. 36	9. 41
	ξ² Aquarii	46	0. 1	2. 3	3. 6	13. 9	14. 9	16. 1	17. 4	18. 6	28. 8	30. 1	32. 3	40 16. 19	− 0. 36	2. 44	22 40 18. 27	16. 82
	λ Aquarii	47	17. 4	19. 4	20. 8	30. 4	31. 4	32. 6	33. 8	34. 9	44. 7	45. 8	47. 9	45 32. 65	0. 24	2. 44	22 45 34. 85	16. 36
	Lalande 44823 . .	48	57. 9	0. 2	1. 6	11. 6	12. 6	14. 0	15. 2	16. 3	26. 6	27. 8	30. 0	48 13. 98	0. 37	2. 44	22 48 16. 05	16. 80
	* — 7° 50′ . . .	49	17. 6	19. 7	20. 9	30. 5	31. 5	32. 7	33. 8	34. 9	44. 7	45. 9	48. 0	53 32. 75	0. 24	2. 43	22 53 34. 94	16. 37
	81 Aquarii	50	5. 9	7. 9	9. 2	18. 8	19. 7	21. 0	22. 2	23. 3	33. 0	34. 0	36. 2	54 21. 02	− 0. 24	+ 2. 43	22 54 23. 21	− 16. 37

26. Very unsteady.

October 29, . . . n. = + 0.50 s.

October 29, 2h. Image west 0.50 r. Clamp east.
Image west 0.28. Clamp west.
3h. Reduced the azimuth error.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	a.
h.	s.	s.	s.
Oct. 29, 20.7	+ 2.53	− 0.044	− 0.168

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860. 0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Oct. 29	Lalande 45137 . .	1	47.0	48.9	50.2	0.2	1.2	2.5	3.7	4.9	15.0	16.2	18.4	58 2.56	— 0.34	+ 2.43	22 58 4.65	— 16.65
Y.	* — 20° 27′ . .	2	40.9	43.0	44.3	54.5	55.4	56.7	58.0	59.0	9.4	10.6	12.8	6 56.78	0.37	2.42	23 6 58.83	16.68
	γ Piscium	3	53.7	55.6	57.0	6.4	7.3	8.5	9.6	10.7	20.4	21.7	23.8	10 8.61	0.15	2.42	23 10 10.88	15.42
	O. Arg. S. 22766 .	4	1.6	3.6	5.1	15.1	16.3	17.5	18.8	19.9	30.3	31.4	33.8	13 17.58	0.37	2.42	23 13 19.63	16.65
	O. Arg. S. 22800 .	5	. .	. .	. .	. .	. .	. .	36.0	38.6	40.0	41.4	43.0	16 39.80	37.68	2.42	23 16 4.54	16.74
	Lacaille 9508 . .	6	30.8	33.0	34.5	45.0	46.0	47.5	48.9	50.0	0.8	2.2	4.4	24 47.55	0.44	2.41	23 24 49.52	16.68
	O. Arg. S. 22911 .	7	16.3	18.3	19.6	29.7	30.8	32.0	33.2	34.3	44.6	45.7	47.8	27 32.03	0.34	2.41	23 27 34.10	16.51
	O. Arg. S. 22993 .	8	27.4	29.4	30.7	40.8	41.8	43.2	44.4	45.6	55.8	57.1	59.3	34 43.23	0.37	2.40	23 34 45.26	16.50
	Lacaille 9724 . .	9	37.8	40.0	41.4	51.8	52.8	54.2	55.4	56.6	7.0	8.3	11.6	59 54.26	0.41	2.38	23 59 56.23	16.36
	γ Pegasi	10	0.6	2.6	3.8	13.7	14.8	16.0	17.3	18.3	28.2	29.5	31.7	6 16.05	0.05	2.38	0 6 18.38	16.65
	Lacaille 26 . . .	11	25.0	27.3	28.8	40.2	41.3	42.8	44.3	45.5	57.0	58.5	1.0	9 42.88	0.54	2.38	0 9 44.72	16.18
	B. A. C. 49 . . .	12	. .	. .	. .	7.4	8.8	11.3	29.5	32.4	33.8	35.3	36.8	10 24.41	31.72	2.38	0 9 55.07	16.18
	Neptune	13	40.4	42.6	43.8	53.3	54.3	55.5	56.7	57.8	6.4	7.6	9.5	24 55.26	0.16	2.37	0 24 57.47	. .
	O. Arg. S. 369 . .	14	40.1	42.4	43.7	53.8	54.9	56.2	57.5	58.6	8.9	10.1	12.3	35 56.23	0.37	2.36	0 35 58.22	16.05
	O. Arg. S. 442 . .	15	25.2	27.4	28.7	39.2	40.3	41.5	42.8	44.0	54.6	55.8	58.0	42 41.59	0.41	2.35	0 42 43.53	15.92
	Lacaille 224 . .	16	. .	. .	. .	. .	. .	. .	26.7	29.3	30.7	32.1	33.4	43 30.44	37.27	2.35	0 42 55.52	15.91
	O. Arg. S. 506 . .	17	14.0	16.3	17.4	27.5	28.5	29.7	31.0	32.1	42.2	43.5	45.6	48 29.80	0.34	2.35	0 48 31.81	16.05
	O. Arg. S. 544 . .	18	47.4	49.5	50.8	0.8	2.0	3.3	4.5	5.7	16.0	17.3	19.3	52 3.33	0.37	2.35	0 52 5.31	15.94
	O. Arg. S. 635 . .	19	. .	. .	. .	36.5	37.6	38.8	40.2	41.2	. .	. .	. .	0 38.86	— 0.37	2.34	1 0 40.83	15.72
	Polaris	20	. .	. .	. .	57.0	40.5	29.0	19.0	0.5	. .	. .	. .	10 29.20	+ 15.43	2.33	1 10 46.96	162.38
	η Piscium	†21	59.6	1.5	2.7	12.6	13.8	15.0	16.2	17.2	27.3	28.5	30.5	24 14.99	— 0.04	+ 2.32	1 24 17.27	17.45
Nov. 5	ζ Aquilæ	22	59.5	1.5	2.9	12.5	13.6	14.8	16.0	17.1	27.0	28.3	30.3	59 14.86	0.22	— 2.84	18 59 11.80	13.21
	Moon I	23	29.0	31.1	32.4	42.5	43.6	44.9	46.0	47.1	57.5	58.7	1.0	2 44.89	0.15	2.84	20 2 41.90	. .
	α² Capricorni . . .	24	21.0	23.2	24.5	34.1	35.2	36.4	37.6	38.7	48.6	49.8	51.8	10 36.45	0.16	2.84	20 10 33.45	16.43
	β Capricorni . . .	25	56.3	58.4	59.8	9.7	10.8	12.0	13.3	14.5	24.5	25.8	28.0	21 12.10	0.15	2.84	20 21 9.11	16.92
	B. A. C. 7113 . .	26	51.5	53.7	55.4	5.4	6.5	7.9	9.2	10.3	20.9	22.2	24.4	30 7.91	0.14	2.84	20 30 4.93	17.33
	B. A. C. 7147 . .	27	6.4	8.8	10.1	20.6	21.8	23.2	24.5	26.7	36.3	37.7	39.9	33 23.27	0.14	2.84	20 33 20.29	17.77
	B. A. C. 7180 . .	28	7.2	9.4	10.8	21.1	22.2	23.5	24.8	26.0	36.7	38.0	40.2	38 23.63	0.14	2.84	20 38 20.65	17.52
	B. A. C. 7243 . .	29	51.5	53.8	55.1	5.4	6.6	7.9	9.2	10.4	21.1	22.3	24.6	46 7.99	0.14	2.84	20 46 5.01	17.56
	O. Arg. S. 21053 .	30	. .	. .	. .	20.2	21.4	23.6	39.7	42.2	43.5	44.9	46.3	55 35.22	27.79	2.84	20 55 4.59	17.06
	O. Arg. S. 21148 .	31	47.4	49.5	50.8	1.3	2.4	3.7	4.9	5.9	16.7	17.7	20.1	1 3.67	0.14	2.84	21 1 0.69	17.37
	ζ Cygni	32	57.7	0.0	1.5	12.4	13.5	14.9	16.2	17.5	28.6	30.0	32.2	7 14.95	0.28	2.84	21 7 11.83	13.06
	O. Arg. S. 21283 .	33	38.3	40.6	42.0	52.8	53.9	55.2	56.6	57.8	8.5	9.8	12.3	10 55.25	0.14	2.84	21 10 52.27	17.67
	* — 23° 17′ . .	34	18.7	20.6	22.2	32.7	33.7	34.9	36.1	37.3	47.9	49.2	51.5	14 34.98	0.14	2.84	21 14 32.00	17.31
	B. A. C. 7413 . .	35	2.7	4.8	6.0	16.5	17.5	18.9	20.0	21.3	31.8	33.0	35.3	15 18.89	0.14	2.84	21 15 15.91	17.30
	Lalande 41550 . .	36	. .	. .	. .	. .	. .	. .	13.0	15.8	17.1	18.6	20.0	17 16.90	36.94	2.84	21 16 37.12	17.35
	* — 23° 53′ . .	37	. .	. .	. .	48.0	49.4	51.5	8.0	10.9	12.2	13.5	14.5	18 3.50	28.59	2.84	21 17 32.07	17.35
	β Cephei	38	16.2	21.7	25.3	53.2	56.0	59.6	2.8	5.6	34.0	37.5	43.5	26 59.58	0.88	2.84	21 26 55.86	5.43
	* — 40° 12′ . .	39	22.6	25.0	26.8	39.2	40.4	41.9	43.5	44.9	57.6	59.3	1.7	30 42.08	0.13	2.84	21 30 39.11	18.81
	B A. C. 7550 . .	40	27.3	29.4	30.7	40.8	41.9	43.1	44.4	45.5	55.8	57.0	59.2	35 43.10	0.14	2.84	21 35 40.21	16.99
	θ Piscis Australis .	41	33.9	36.0	37.6	48.8	49.8	51.3	52.7	53.9	5.1	6.6	9.0	39 51.34	0.13	2.84	21 39 48.37	17.85
	μ Capricorni . . .	42	43.8	45.8	47.0	56.8	57.9	59.1	0.4	1.6	11.4	12.6	14.7	45 59.19	0.15	2.84	21 45 56.20	16.68
	δ Sculptoris . . .	43	39.9	42.3	43.6	54.5	55.6	57.0	58.4	59.5	10.5	11.9	14.1	41 57.03	0.13	2.84	23 41 54.06	16.50
	B. A. C. 8304 . .	44	9.0	11.2	12.7	23.0	24.0	25.5	26.8	27.9	38.6	39.8	42.0	46 25.50	0.14	2.84	23 46 22.52	16.38
	* — 20° 47′ . .	45	34.0	36.0	37.4	47.6	48.7	50.0	51.2	52.4	2.7	4.0	6.1	51 50.01	0.14	2.84	23 51 47.03	16.32
	O. Arg. S. 23166 .	46	15.0	17.3	18.6	28.9	30.0	31.3	32.4	33.6	43.8	45.2	47.3	52 31.22	0.14	2.84	23 52 28.24	16.32
	O. Arg. S. 23206 .	47	49.2	51.4	52.8	2.8	3.9	5.2	6.4	7.6	18.0	19.2	21.3	56 5.25	0.14	2.84	23 56 2.27	16.30
	Lacaille 9724 . .	48	42.8	45.0	46.5	56.8	57.9	59.3	0.6	1.6	12.2	13.5	15.7	59 59.26	0.14	2.84	23 59 56.28	16.26
	* — 23° 52′ . .	49	. .	. .	. .	34.4	35.8	38.0	54.9	57.4	58.8	0.2	1.5	0 50.12	28.59	2.84	0 0 18.69	16.26
	* — 33° 33′ . .	50	14.3	16.7	18.2	29.7	30.7	31.9	33.4	34.7	46.3	47.6	50.2	4 32.15	— 0.13	— 2.84	0 4 29.18	— 16.19

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 5, 22.2	— 2.83	— 0.000	— 0.180

21. Through clouds.

Nov. 5, n. = — 0.13.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. Nov. 5	O. Arg. S. 65 . .	1	40. 3	42. 5	43. 9	54. 3	55. 4	56. 7	57. 9	59. 0	9. 7	10. 9	13. 2	6 56. 71	— 0. 14	— 2. 84	0 6 53. 73	— 16. 20
Y.	Lacaille 26 . . .	2	4. 5	6. 0	7. 6	9. 1	12. 0	. .	23. 9	26. 8	28. 1	30. 0	31. 6	9 47. 96	0. 41	2. 84	0 9 44. 71	16. 11
	B. A. C. 49 . .	3	14. 9	16. 5	17. 9	19. 4	22. 1	. .	34. 1	37. 0	38. 6	40. 2	41. 9	10 58. 26	0. 41	2. 84	0 10 55. 01	16. 09
	* — 33° 31′ . .	4	15. 4	17. 8	19. 3	30. 6	31. 8	33. 3	34. 6	36. 0	47. 7	48. 8	51. 5	13 33. 35	0. 13	2. 84	0 13 30. 38	16. 05
	44 Piscium	5	18. 2	20. 1	21. 4	30. 7	31. 8	33. 0	34. 2	35. 3	44. 8	46. 0	48. 2	18 33. 06	0. 18	2. 84	0 18 30. 04	16. 48
	Lacaille 100 . .	6	52. 5	54. 6	55. 9	6. 3	7. 4	8. 8	10. 0	11. 5	22. 1	23. 4	25. 5	22 8. 91	0. 14	2. 84	0 22 5. 93	16. 05
	Neptune	7	12. 3	14. 0	15. 4	24. 9	25. 9	27. 0	28. 3	29. 3	38. 8	40. 0	42. 2	24 27. 10	0. 18	2. 84	0 24 24. 08	. .
	O. Arg. S. 284 . .	8	43. 3	45. 5	46. 9	57. 8	58. 9	0. 3	1. 6	2. 6	13. 5	14. 9	17. 0	29 0. 21	0. 14	2. 84	0 28 57. 23	15. 94
	Lacaille 157 . .	9	54. 0	56. 2	57. 6	8. 0	9. 3	10. 5	11. 8	13. 0	23. 7	25. 0	27. 2	32 10. 57	0. 14	2. 84	0 32 7. 59	15. 94
	O. Arg. S. 506 . .	10	19. 0	21. 1	22. 4	32. 3	33. 5	34. 7	35. 9	37. 0	47. 3	48. 5	50. 6	48 34. 75	0. 15	2. 84	0 48 31. 76	16. 02
	O. Arg. S. 544 . .	11	52. 5	54. 6	56. 0	6. 0	7. 1	8. 3	9. 5	10. 6	21. 0	22. 3	24. 5	52 8. 40	0. 14	2. 84	0 52 5. 42	15. 91
	O. Arg. S. 592 . .	12	26. 0	28. 0	29. 4	39. 9	41. 0	42. 2	43. 5	44. 7	55. 2	56. 3	58. 7	56 42. 26	0. 14	2. 84	0 56 39. 28	15. 76
	B. A. C. 319 . .	13	52. 2	54. 7	56. 3	8. 0	9. 2	10. 7	12. 2	13. 4	25. 5	27. 1	29. 5	0 10. 80	0. 13	2. 84	1 0 7. 83	15. 25
	Polaris	14	. .	. .	. .	25. 0	7. 0	56. 5	44. 0	26. 5	. .	. .	. .	10 55. 80	10. 68	2. 84	1 10 42. 28	. .
	O. Arg. S. 857 . .	15	27. 5	29. 7	31. 1	42. 0	43. 1	44. 4	45. 7	46. 7	57. 8	59. 1	1. 5	21 44. 42	0. 14	2. 84	1 21 41. 44	15. 34
	η Piscium	16	. .	. .	. .	18. 0	19. 0	20. 3	21. 6	22. 6	32. 6	33. 6	35. 8	24 25. 44	5. 34	2. 84	1 24 17. 26	17. 45
	Lacaille 459 . .	17	24. 9	27. 6	29. 0	40. 9	42. 0	43. 4	44. 9	46. 1	58. 2	59. 7	2. 2	28 43. 54	0. 13	2. 84	1 28 40. 57	14. 79
	ν Piscium	18	13. 7	16. 2	17. 1	26. 7	27. 7	28. 9	30. 0	31. 1	40. 7	42. 0	43. 8	34 28. 90	0. 19	2. 84	1 34 25. 87	16. 94
6	μ Aquarii	19	10. 2	12. 2	13. 5	23. 1	24. 1	25. 3	26. 5	27. 6	37. 4	38. 6	40. 5	45 25. 36	0. 16	3. 09	20 45 22. 11	16. 16
	20 Capricorni . . .	20	42. 8	45. 0	46. 3	56. 3	57. 4	58. 7	59. 9	1. 0	11. 4	12. 5	14. 7	51 58. 73	0. 15	3. 09	20 51 55. 49	17. 03
	O. Arg. S. 21053 .	21	51. 9	54. 0	55. 3	5. 3	6. 4	7. 6	8. 9	10. 0	20. 3	21. 5	23. 5	55 7. 70	0. 15	3. 09	20 55 4. 46	17. 04
	Moon I	22	. .	. .	. .	. .	. .	. .	37. 5	40. 0	41. 3	42. 7	44. 0	0 41. 10	35. 51	3. 09	21 0 2. 50	. .
	ν Aquarii	23	2. 2	4. 3	5. 4	15. 1	16. 2	17. 5	18. 7	19. 7	29. 5	30. 8	32. 8	2 17. 47	0. 16	3. 09	21 2 14. 22	16. 38
	ζ Cygni	24	58. 0	0. 2	1. 7	12. 5	13. 7	15. 1	16. 4	17. 7	28. 7	30. 0	32. 4	7 15. 13	0. 28	3. 09	21 7 11. 76	13. 04
	O. Arg. S. 21283 .	25	38. 8	40. 9	42. 3	53. 0	54. 0	55. 5	56. 7	57. 9	8. 8	10. 0	12. 4	10 55. 48	0. 14	3. 09	21 10 52. 25	17. 65
	O. Arg. S. 21355 .	26	15. 5	17. 7	19. 0	29. 5	30. 6	32. 0	33. 2	34. 4	45. 0	46. 3	48. 4	16 31. 96	0. 14	3. 09	21 16 28. 73	17. 36
	O. Arg. S. 21374 .	27	48. 8	51. 1	52. 5	2. 8	3. 9	5. 3	6. 6	7. 8	18. 3	19. 6	21. 9	18 5. 33	0. 14	3. 09	21 18 2. 10	17. 37
	β Aquarii	28	15. 4	17. 4	18. 7	28. 2	29. 2	30. 4	31. 6	32. 7	42. 4	43. 5	45. 6	24 30. 46	0. 17	3. 09	21 24 27. 20	16. 00
	β Cephei	29	16. 0	21. 4	25. 5	53. 2	55. 8	59. 4	3. 0	6. 0	34. 3	37. 9	43. 6	26 59. 65	0. 88	3. 09	21 26 55. 68	. .
	ξ Aquarii	30	22. 1	24. 1	25. 4	34. 9	35. 9	37. 1	38. 3	39. 4	49. 2	50. 4	52. 3	30 37. 19	0. 16	3. 09	21 30 33. 94	16. 20
10	Sun I	31	24. 3	26. 3	27. 6	. .	. .	. .	. .	. .	52. 3	53. 5	55. 7	3 39. 95	0. 24	16. 56	15 3 23. 15	.
	Sun II	32	40. 4	42. 6	43. 7	53. 7	54. 7	56. 0	57. 3	58. 4	8. 5	9. 6	12. 8	5 56. 15	0. 20	16. 56	15 5 39. 39	. .
	α Herculis . .	33	29. 8	31. 9	33. 2	42. 9	44. 0	45. 3	46. 5	47. 6	57. 5	58. 7	0. 9	8 45. 30	0. 21	16. 67	17 8 28. 42	— 12. 57
	Venus I	34	29. 5	31. 8	33. 0	43. 5	44. 7	45. 9	47. 2	48. 4	59. 0	0. 2	2. 5	9 45. 97	0. 22	16. 67	17 9 29. 08	+ 0. 45
	α Ophiuchi . . .	35	40. 5	42. 6	43. 9	53. 6	54. 8	55. 9	57. 1	58. 3	8. 0	9. 3	11. 4	28 55. 95	0. 21	16. 69	17 28 39. 05	— 12. 88
	δ Ursæ Minoris . .	36	43. 5	17. 0	39. 0	18. 3	36. 0	56. 0	16. 0	34. 5	17. 0	36. 5	11. 0	15 56. 82	3. 38	16. 74	. . . .	+ 113. 52
	α Lyræ	37	19. 0	21. 5	23. 1	35. 2	36. 5	38. 1	39. 6	40. 8	53. 2	54. 7	57. 3	32 38. 09	0. 26	16. 75	18 32 21. 08	— 9. 16
	β Lyræ	38	4. 0	6. 4	8. 0	19. 3	20. 5	21. 9	23. 4	24. 6	36. 2	37. 6	40. 0	45 21. 99	— 0. 24	16. 77	18 45 4. 98	10. 25
	ω Piscium	39	26. 0	28. 1	29. 2	38. 7	39. 7	40. 9	42. 1	13. 3	. .	. .	. .	52 36. 00	+ 4. 80	17. 06	23 52 23. 74	16. 39
	Lacaille 9724 . .	40	57. 0	59. 3	0. 5	10. 8	12. 0	13. 3	14. 6	15. 8	26. 4	27. 5	29. 9	0 13. 37	— 0. 18	17. 06	23 59 56. 13	16. 21
	Weisse 1267 . .	41	0. 4	2. 5	3. 7	13. 2	14. 1	15. 3	16. 4	17. 5	27. 3	28. 4	39. 5	2 15. 39	0. 20	17. 06	0 1 58. 13	16. 35
	O. Arg. S. 65 . .	42	54. 5	56. 6	58. 0	8. 5	9. 6	10. 9	12. 1	13. 3	23. 7	25. 0	27. 3	7 10. 86	0. 18	17. 07	0 6 53. 61	16. 15
	Lacaille 26 . . .	43	18. 8	20. 4	21. 8	23. 3	26. 2	. .	38. 2	40. 9	42. 5	43. 2	45. 8	10 2. 11	0. 47	17. 07	0 9 44. 57	16. 05
	B. A. C. 49 . .	44	54. 3	56. 7	58. 3	9. 6	10. 8	12. 3	13. 7	14. 9	26. 4	27. 8	30. 3	10 12. 28	0. 19	17. 07	0 9 55. 02	16. 05
	d Piscium	45	42. 4	44. 5	45. 8	55. 3	56. 4	57. 6	58. 8	59. 8	9. 5	10. 6	12. 8	13 57. 59	0. 21	17. 08	0 13 40. 30	16. 53
	44 Piscium	46	32. 3	34. 2	35. 5	45. 0	46. 1	47. 3	48. 4	49. 5	59. 1	0. 3	2. 4	18 47. 28	0. 20	17. 08	0 18 30. 00	16. 45
	Neptune . . .	47	4. 7	6. 7	8. 0	17. 4	18. 3	19. 6	20. 8	21. 7	31. 5	32. 7	34. 8	24 19. 65	0. 20	17. 09	0 24 2. 36	. .
	O. Arg. S. 284 . .	48	57. 3	59. 5	0. 9	11. 7	12. 8	14. 2	15. 4	16. 6	27. 5	28. 9	31. 2	29 14. 18	0. 18	17. 09	0 28 56. 91	15. 89
	β Ceti	49	51. 1	53. 2	54. 6	4. 6	5. 8	7. 0	8. 2	9. 3	19. 5	20. 7	22. 9	37 6. 99	0. 19	17. 10	0 37 49. 70	16. 09
	O. Arg. S. 442 . .	50	44. 5	46. 7	47. 9	58. 2	59. 4	0. 7	1. 9	3. 1	13. 6	14. 8	17. 3	43 0. 74	— 0. 18	—17. 11	0 42 43. 45	— 15. 85

		s.
November 6	n. =	— 0. 13.
10, 15h. to 19h.		0. 00.
23h. to 14h.		— 0. 08.

	r.	
November 10, 2h. 30m.	Image west 0. 48.	Clamp east.
	Image west 0. 17.	Clamp west.

November 8. Adjusted a system of levers to the pendulum of the clock to close the galvanic circuit, instead of the globule of mercury.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 6, 21. 2	— 3. 09	— 0. 011	— 0. 180
10, 21. 3	16. 91	0. 057	— 0. 200
13. 3	— 18. 33	— 0. 089	. .

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 10 Y.	Lacaille 224 . .	1	. .	. .	. .	25. 8	27. 0	29. 2	45. 9	48. 6	49. 9	51. 2	52. 7	43 41. 29	— 28. 68	—17. 11	0 42 55. 50	— 15. 84
	Moon I	2	40. 9	42. 9	44. 2	54. 1	55. 1	56. 3	57. 4	58. 6	8. 6	9. 8	12. 0	46 56. 35	0. 21	17. 11	0 46 39. 03	. .
	O. Arg. S. 544 . .	3	6. 3	8. 7	9. 9	20. 1	21. 1	22. 4	23. 7	24. 7	35. 2	36. 4	38. 6	52 22. 46	0. 18	17. 12	0 52 5. 16	15. 88
	ε Piscium	4	59. 9	1. 8	3. 1	12. 7	13. 7	14. 9	16. 0	17. 1	26. 8	27. 8	30. 0	56 14. 89	0. 21	17. 12	0 55 57. 56	16. 83
	O. Arg. S. 623 . .	5	27. 4	29. 7	31. 2	41. 7	43. 0	44. 4	45. 7	46. 8	57. 7	59. 0	1. 3	59 44. 35	0. 18	17. 12	0 59 27. 05	15. 57
	Ceres	6	46. 8	48. 8	49. 9	59. 4	0. 5	1. 7	2. 9	3. 9	13. 7	14. 8	16. 8	7 1. 75	0. 19	17. 13	1 6 44. 43	. .
	Polaris	7	. .	. .	. .	40. 0	20. 0	6. 5	58. 0	39. 5	. .	. .	. .	11 8. 80	9. 46	17. 13	1 10 42. 21	159. 26
	Lacaille 381 . .	8	10. 7	12. 9	14. 3	24. 7	25. 8	27. 2	28. 5	29. 6	40. 3	41. 5	43. 8	17 27. 21	0. 18	17. 14	1 17 9. 89	15. 50
	O. Arg. S. 857 . .	9	41. 7	44. 1	45. 6	56. 2	57. 2	58. 6	59. 9	1. 2	12. 0	13. 4	15. 7	21 58. 69	0. 18	17. 14	1 21 41. 37	15. 32
	η Piscium	10	. .	. .	. .	32. 4	33. 4	34. 7	35. 8	36. 9	46. 9	48. 2	50. 3	24 39. 82	5. 35	17. 14	1 24 17. 33	17. 46
	Weisse 607 . . .	11	23. 7	25. 6	6. 8	36. 4	37. 5	38. 6	39. 8	40. 8	50. 5	51. 6	53. 7	34 38. 64	0. 21	17. 16	1 34 21. 27	16. 90
	Weisse 628 . . .	12	15. 5	17. 4	18. 7	28. 3	29. 3	30. 4	31. 6	32. 6	42. 3	43. 4	45. 5	35 30. 36	0. 21	17. 16	1 35 12. 99	16. 90
	Weisse 775 . . .	13	. .	. .	. .	. .	. .	. .	50. 3	52. 7	53. 9	55. 4	56. 7	44 53. 80	— 34. 93	17. 16	1 44 1. 71	17. 61
	Polaris, S. P. . .	14	. .	. .	. .	23. 5	38. 0	49. 0	3. 0	20. 5	. .	. .	. .	10 50. 80	+ 9. 46	18. 32	1 10 41. 94	159. 13
	α Virginis	15	7. 4	9. 5	10. 8	20. 5	21. 6	22. 7	23. 9	25. 0	34. 7	35. 8	38. 0	18 22. 72	— 0. 19	18. 33	. . . .	14. 89
12	ω Piscium	16	32. 6	34. 6	35. 9	45. 4	46. 4	47. 7	48. 8	49. 8	59. 5	0. 6	2. 8	52 47. 65	0. 28	23. 65	23 52 23. 72	. .
	Lacaille 9722 . .	17	. .	. .	. .	42. 4	43. 6	45. 0	46. 4	47. 8	59. 2	0. 6	3. 2	59 51. 02	6. 14	23. 66	23 59 21. 22	16. 17
	B. A. C. 12 . .	18	10. 1	12. 1	13. 4	22. 9	24. 0	25. 1	26. 2	27. 3	36. 9	38. 3	40. 2	3 28. 14	0. 25	23. 66	0 3 1. 23	16. 31
	Lacaille 17 . . .	19	10. 7	13. 2	14. 4	25. 8	27. 0	28. 5	29. 9	31. 1	42. 7	44. 0	46. 7	8 28. 55	0. 19	23. 67	0 8 4. 69	16. 05
	Lacaille 52 . . .	20	36. 1	38. 7	40. 3	52. 0	53. 2	54. 7	56. 2	57. 6	9. 6	10. 9	13. 5	14 54. 80	0. 19	23. 68	0 14 30. 93	15. 92
	Lacaille 81 . . .	21	46. 3	49. 0	50. 6	3. 0	4. 3	5. 7	7. 2	8. 7	21. 3	22. 8	25. 5	19 5. 85	0. 19	23. 69	0 18 42. 07	15. 81
	Neptune	22	3. 3	5. 3	6. 5	16. 0	17. 0	18. 2	19. 4	20. 5	30. 1	31. 2	33. 3	24 18. 25	0. 26	23. 70	0 23 54. 29	. .
	B. A. C. 135 . .	23	7. 6	9. 9	11. 3	22. 3	23. 5	24. 8	26. 3	27. 5	38. 7	40. 1	42. 4	27 24. 95	0. 20	23. 70	0 27 1. 05	15. 84
	* — 18° 21′ . .	24	. .	. .	. .	35. 6	36. 6	37. 9	39. 1	40. 2	50. 4	51. 6	53. 9	33 43. 16	5. 43	23. 71	0 33 14. 02	16. 04
	* — 18° 17′ . .	25	. .	. .	. .	3. 3	4. 4	6. 5	22. 6	25. 2	26. 5	27. 8	29. 2	34 18. 19	27. 61	23. 71	0 33 26. 87	16. 04
	O. Arg. S. 369 . .	26	6. 2	8. 3	9. 6	19. 7	20. 7	22. 0	23. 3	24. 5	34. 6	35. 9	38. 3	36 22. 10	0. 21	23. 72	0 35 38. 17	15. 96
	B. A. C. 203 . .	27	. .	. .	. .	. .	. .	. .	1. 0	3. 7	5. 0	6. 4	7. 9	39 4. 80	36. 71	23. 72	0 38 4. 37	15. 90
	O. Arg. S. 544 . .	28	. .	. .	. .	26. 9	28. 1	29. 3	30. 6	31. 6	41. 8	43. 1	45. 2	52 34. 58	5. 50	23. 75	0 52 5. 33	15. 87
	O. Arg. S. 592 . .	29	46. 8	49. 0	50. 4	0. 8	2. 0	3. 2	4. 5	5. 5	16. 2	17. 4	19. 6	57 3. 22	0. 21	23. 75	0 56 39. 26	15. 72
	B. A. C. 319 . .	30	13. 1	15. 6	17. 0	28. 9	30. 1	31. 6	33. 1	34. 4	46. 3	47. 8	50. 3	0 31. 65	0. 19	23. 76	1 0 7. 70	15. 19
	Polaris	31	. .	. .	. .	51. 0	32. 0	20. 5	10. 0	52. 0	. .	. .	. .	11 21. 10	15. 97	23. 78	. . . .	. .
	θ Ceti	32	26. 8	28. 7	29. 9	39. 6	40. 6	41. 9	43. 0	44. 1	53. 7	55. 0	57. 1	17 41. 85	0. 24	23. 79	1 17 17. 82	16. 20
	O. Arg. S. 861 . .	33	31. 6	34. 8	36. 2	46. 7	47. 8	49. 1	50. 4	51. 6	22. 4	23. 6	25. 8	22 49. 09	0. 20	23. 80	1 22 25. 09	15. 42
	Lacaille 435 . .	34	42. 9	45. 4	46. 7	57. 4	58. 6	59. 9	1. 3	2. 5	13. 5	14. 8	17. 0	26 0. 00	0. 20	23. 80	1 25 36. 00	15. 26
	Lacaille 459 . .	35	46. 1	48. 6	50. 0	1. 8	3. 0	4. 5	5. 9	7. 3	19. 2	20. 6	23. 1	29 4. 55	0. 19	23. 81	1 28 40. 55	14. 75
	ν Piscium	36	35. 1	37. 0	38. 2	47. 7	48. 8	50. 0	51. 1	52. 3	1. 9	3. 0	5. 1	34 50. 02	0. 27	23. 82	1 34 25. 93	16. 94
	O. Arg. S. 1049 .	37	. .	. .	. .	21. 1	22. 2	23. 6	24. 9	26. 0	. .	. .	. .	39 23. 56	0. 15	23. 82	1 38 59. 59	15. 17
	O. Arg. S. 1053 .	38	. .	. .	. .	40. 3	41. 4	42. 7	44. 1	45. 3	. .	. .	. .	39 42. 76	0. 15	23. 83	1 39 18. 78	15. 17
	O. Arg. S. 1057 .	39	. .	. .	. .	51. 7	52. 8	54. 2	55. 5	56. 6	. .	. .	. .	39 54. 16	0. 15	23. 83	1 39 30. 18	15. 17
	O. Arg. S. 1058 .	40	. .	. .	. .	9. 5	11. 9	13. 2	30. 3	32. 9	34. 3	35. 6	37. 1	40 25. 60	29. 42	23. 83	1 39 32. 35	15. 17
	O. Arg. S. 1116 .	41	10. 2	12. 5	13. 9	24. 1	25. 3	26. 5	27. 8	28. 9	39. 5	40. 8	42. 9	44 26. 58	0. 21	23. 83	1 44 2. 54	15. 34
	O. Arg. S. 1151 .	42	. .	. .	. .	. .	. .	. .	34. 1	36. 8	37. 9	39. 4	40. 8	46 37. 80	36. 98	23. 84	1 45 36. 98	15. 31
	Weisse 188 . . .	43	28. 4	30. 5	31. 7	41. 5	42. 5	43. 7	44. 9	46. 1	55. 9	57. 0	59. 9	13 43. 83	0. 31	23. 88	2 13 19. 64	17. 80
	Lacaille 726 . .	44	25. 0	27. 2	28. 5	39. 3	40. 4	41. 7	43. 0	44. 3	54. 9	56. 2	58. 4	18 41. 72	0. 20	23. 89	2 18 17. 63	14. 82
	ξ² Ceti	45	9. 7	11. 8	13. 0	22. 6	23. 6	24. 7	25. 9	26. 9	36. 6	37. 8	40. 0	21 24. 78	0. 29	23. 90	2 21 0. 59	17. 41
	Weisse 363 . . .	46	44. 5	46. 4	47. 8	57. 4	58. 3	59. 3	0. 5	1. 7	11. 5	12. 6	14. 7	22 59. 52	0. 29	23. 90	2 22 35. 33	17. 41
	Lacaille 787 . .	47	36. 0	38. 1	39. 3	49. 5	50. 7	52. 0	53. 4	54. 5	4. 9	6. 1	8. 3	28 52. 07	0. 21	23. 91	2 28 27. 95	15. 06
	* — 31° 11′ . .	48	7. 1	9. 4	10. 9	22. 0	23. 2	24. 6	25. 9	27. 2	38. 5	39. 8	42. 2	33 24. 62	0. 19	23. 92	2 33 0. 51	14. 26
	O. Arg. S. 1735 .	49	24. 3	26. 5	28. 0	39. 2	40. 2	41. 6	43. 0	44. 3	55. 6	57. 0	59. 4	34 41. 74	0. 19	23. 92	2 34 17. 63	14. 25
	π Arietis	50	56. 1	58. 2	59. 5	9. 4	10. 4	11. 7	13. 0	14. 0	24. 2	25. 3	27. 5	42 11. 75	0. 33	23. 93	2 41 47. 49	— 18. 33
	Moon I	51	8. 2	10. 2	11. 5	21. 6	22. 7	23. 9	25. 3	26. 4	36. 6	37. 8	40. 1	45 24. 03	— 0. 32	—23. 94	2 44 59. 77	. .

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 12, 2.0	— 23. 86	— 0. 101	— 0. 260

November 12 . . . . n. = — 0. 18 s.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 12 Y.	ε Arietis	1	39.8	42.1	43.4	53.5	54.8	56.0	57.1	58.3	8.6	10.0	12.1	51 55.97	— 0.35	—23.95	2 51 31.67	— 18.82
	Weisse 976 . . .	2	17.0	18.9	20.3	30.1	31.1	32.3	33.5	34.5	44.6	45.7	47.8	56 32.35	0.30	23.95	2 56 8.10	18.14
	* + 13° 44′ . .	3	8.8	10.9	12.2	21.9	23.0	24.4	25.5	26.5	36.4	37.6	39.7	58 24.26	0.30	23.96	2 58 0.00	18.13
	δ Arietis	4	5.1	7.0	8.3	18.5	19.6	20.7	22.0	23.3	33.4	34.7	36.9	4 20.86	0.34	23.97	3 3 56.55	18.79
	12 Eridani . . .	5	. .	. .	. .	59.7	1.0	3.4	20.8	23.6	25.0	26.5	27.8	7 15.98	30.10	23.97	3 6 21.91	14.08
	* — 29° 29′ . .	6	51.7	54.0	55.4	6.3	7.5	8.9	10.3	11.4	21.6	23.9	26.3	8 8.85	0.20	23.97	3 7 44.68	14.06
	Lacaille 1041 . .	7	31.6	33.8	34.9	45.5	46.5	47.8	49.2	50.4	0.9	2.1	4.5	11 47.93	0.20	23.98	3 11 23.75	14.60
	B. A. C. 1049 .	8	39.6	41.7	43.1	53.7	54.8	56.0	57.2	58.4	8.9	10.1	12.4	15 55.99	0.20	23.99	3 15 31.80	14.55
	O. Arg. S. 2237 .	9	. .	. .	. .	44.9	46.2	48.3	4.0	6.8	8.0	9.2	10.6	17 59.75	27.56	23.99	3 17 8.20	15.16
	B. A. C. 1073 . .	10	49.5	51.7	53.1	3.9	5.0	6.3	7.7	8.9	19.7	21.1	23.6	21 6.41	0.20	24.00	3 20 42.21	14.13
	Lacaille 1113 . .	11	50.9	53.2	54.5	5.0	6.0	7.2	8.6	9.8	20.4	21.8	23.9	24 7.39	0.21	24.00	3 23 43.18	14.52
	ε Eridani	12	45.0	47.1	48.4	57.8	58.8	0.0	1.1	3.3	12.2	13.2	15.4	27 0.21	0.23	24.00	3 26 35.98	15.90
15	Weisse (2) 845 . .	13	. .	. .	. .	45.2	46.4	47.7	48.9	50.1	. .	. .	. .	38 47.66	0.36	33.05	3 38 14.25	19.56
	10 Pleiadum . . .	14	. .	. .	. .	58.6	59.7	1.0	2.3	3.5	. .	. .	. .	39 1.02	0.36	33.05	3 38 27.61	19.57
	η Tauri	15	46.8	49.0	50.3	0.6	1.8	3.1	4.4	5.5	16.0	17.4	19.8	40 3.15	0.41	33.05	3 39 29.69	19.57
	27 Tauri	16	4.5	5.8	7.1	8.5	11.0	. .	16.6	19.2	20.5	22.0	23.5	41 43.87	0.67	33.05	3 41 10.15	19.58
	28 Tauri	17	28.4	30.6	31.9	42.4	43.5	44.7	46.0	47.1	57.7	59.0	1.0	41 44.75	0.41	33.05	3 41 11.29	19.59
	B. A. C. 1195 . .	18	9.8	12.1	13.5	23.8	24.9	26.2	27.4	28.6	39.2	40.4	42.6	43 26.23	0.41	33.05	3 42 52.77	19.58
	Lacaille 1291 . .	19	1.8	4.1	5.5	16.5	17.7	19.2	20.5	21.8	32.8	34.1	36.6	51 19.15	0.32	33.07	3 50 45.76	13.63
	O. Arg. S. 2710 .	20	15.5	17.6	19.0	30.1	31.2	32.5	33.8	35.0	46.2	47.5	49.7	54 32.55	0.32	33.07	3 53 59.16	13.72
	O. Arg. S. 2761 .	21	26.9	29.1	30.5	41.1	42.4	43.7	45.2	46.4	57.2	58.5	0.8	57 43.80	0.32	33.08	3 57 10.40	13.86
	Lacaille 1346 . .	22	34.3	36.6	38.2	49.0	50.3	51.7	53.0	54.3	5.7	7.0	9.4	0 51.77	0.32	33.08	4 0 18.37	13.38
	37 Eridani	23	7.2	9.3	10.5	20.1	21.0	22.2	23.5	24.5	34.4	35.5	37.6	4 22.35	0.32	33.09	4 3 48.94	16.11
	o¹ Eridani	24	36.5	38.6	39.7	49.2	50.3	51.5	52.7	53.7	3.4	4.5	6.7	5 51.53	0.32	33.09	4 5 18.12	16.12
	Lacaille 1389 . .	25	2.4	4.8	6.3	17.6	18.7	20.0	21.4	22.7	34.3	35.5	38.0	9 20.15	0.32	33.10	4 8 46.73	13.18
	Weisse (2) 350 . .	26	29.4	31.6	33.0	43.8	45.0	46.4	47.8	49.0	0.0	1.4	2.8	17 46.38	0.44	33.11	4 17 12.83	20.60
	O. Arg. S. 3061 .	27	. .	. .	. .	14.2	15.6	17.8	35.0	37.9	39.2	40.6	42.2	20 30.31	29.92	33.12	4 19 27.27	13.62
	Lacaille 1485 . .	28	52.5	54.8	56.3	7.2	8.2	9.6	10.9	12.0	23.2	24.5	26.9	25 9.65	0.32	33.13	4 24 36.20	13.49
	O. Arg. S. 3154 .	29	15.7	17.8	19.6	30.4	31.4	32.7	34.1	35.3	46.4	47.8	50.0	26 32.84	0.32	33.13	4 25 59.39	13.49
	υ⁷ Eridani	30	35.7	38.1	39.5	50.5	51.7	53.1	54.5	55.8	7.0	8.4	10.8	30 53.19	0.32	33.14	4 30 19.73	13.24
	μ Eridani	31	5.1	7.1	8.5	17.9	19.0	20.1	21.2	22.4	32.0	33.1	35.2	39 20.15	0.33	33.16	4 38 46.66	16.46
	O. Arg. S. 3389 .	32	. .	. .	. .	29.6	31.0	33.2	50.6	53.6	55.0	56.4	57.8	42 45.87	30.25	33.16	4 41 42.46	13.32
	* + 29° 57′ . .	33	33.0	34.4	35.9	37.1	40.0	. .	49.5	52.0	53.5	55.2	56.8	49 14.74	0.71	33.17	4 48 40.86	20.85
	Weisse (2) 1079 .	34	46.0	47.6	48.8	50.2	53.0	. .	2.3	5.1	6.4	7.9	9.5	49 27.68	0.71	33.17	4 48 53.80	20.84
	Weisse (2) 1089 .	35	. .	. .	. .	15.4	16.9	19.3	36.6	39.5	40.9	42.4	43.9	50 31.86	30.44	33.17	4 49 28.25	20.83
	Mars I	36	34.0	35.4	36.8	38.1	40.6	. .	46.1	48.8	50.1	51.6	52.9	54 13.44	0.67	33.18	4 53 39.59	. .
	Mars II	37	58.2	0.3	1.9	12.2	13.2	14.4	15.8	17.0	27.6	28.8	31.0	54 14.58	0.41	33.18	4 53 40.99	. .
	Lacaille 1704 . .	38	36.0	38.2	39.8	50.6	. .	52.6	53.8	55.0	5.5	6.9	9.0	58 52.74	0.45	33.19	4 58 19.10	13.91
	15 Orionis	39	18.1	20.2	21.5	31.4	32.3	33.5	34.8	35.9	45.9	47.1	49.1	2 33.62	0.37	33.19	5 2 0.06	18.67
	O. Arg. S. 3790 .	40	7.9	10.2	11.6	22.4	23.5	24.8	26.0	27.2	38.3	39.4	41.8	9 24.83	0.31	33.21	5 8 51.31	13.47
	O. Arg. S. 3830 .	41	10.3	12.6	14.0	24.6	25.7	27.1	28.4	29.6	40.3	41.8	44.2	12 27.15	0.31	33.21	5 11 53.63	13.47
	* — 20° 11′ . .	42	5.6	7.8	9.2	19.2	20.3	21.5	22.9	23.9	34.3	35.5	37.7	17 21.63	0.31	33.22	5 16 48.10	14.39
	115 Tauri	43	37.1	39.3	40.5	50.4	51.5	52.8	54.0	55.1	5.3	6.5	8.5	19 52.82	0.38	33.22	5 19 19.22	19.03
	* — 28° 31′ . .	44	12.6	14.9	16.4	27.0	28.3	29.6	31.0	32.2	43.2	44.5	46.7	25 29.67	0.32	33.23	5 24 56.12	13.26
	* — 28° 26′ . .	45	. .	. .	. .	. .	. .	. .	53.4	56.0	57.5	58.9	0.5	26 57.26	38.59	33.23	5 25 45.44	13.27
	ζ Tauri	46	53.8	56.0	57.4	7.5	8.5	9.8	10.2	12.4	22.5	23.9	26.1	30 9.83	0.40	33.24	5 29 36.19	19.46
	* — 29° 0′ . . .	47	53.0	55.2	56.7	7.5	8.7	10.2	11.5	12.7	23.7	25.0	27.4	33 10.15	0.32	33.25	5 32 36.58	13.16
	* — 26° 25′ . .	48	10.8	13.0	14.4	. .	. .	. .	. .	. .	40.5	42.0	44.4	36 27.52	0.35	33.25	5 35 53.92	13.51
	* — 26° 25′ . .	49	. .	. .	. .	25.7	27.0	28.0	29.6	30.8	. .	. .	. .	36 28.28	0.26	33.25	5 35 54.77	13.51
	* — 30° 39′ . .	50	2.8	5.1	6.6	27.7	28.8	30.2	31.5	32.8	44.0	45.4	47.8	39 30.25	0.32	33.26	5 38 56.67	— 12.90
	Moon II . . .	51	9.2	11.4	12.8	23.0	24.1	25.5	26.7	27.9	38.5	39.6	41.8	48 25.50	— 0.39	—33.28	5 47 51.83	. .

November 15, . . . n. = — 0.11 s.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 15, 5.0	— 33.19	— 0.107	— 0.330

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT. I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	CORRECTIONS. Inst.	Clock.	Observed R. Ascension.	Reduct'n to 1860. 0.
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 15	Lacaille 2085	1	. .	. .	. .	51. 0	52. 4	54. 7	13. 1	16. 1	17. 6	19. 2	20. 7	54 8. 10	— 31. 80	—33. 29	5 53 2. 92	— 12. 27
Y.	Lacaille 2090	2	. .	. .	. .	37. 5	38. 8	40. 2	41. 6	43. 0	54. 7	56. 0	58. 5	54 46. 29	6. 33	33. 29	5 54 6. 67	12. 29
	ν Orionis	3	11. 4	13. 5	14. 8	24. 6	25. 6	26. 9	28. 1	29. 2	39. 1	40. 3	42. 5	0 26. 91	0. 37	33. 30	5 59 53. 24	18. 51
	η Geminorum	4	2. 6	4. 8	6. 2	16. 4	17. 6	18. 8	20. 0	21. 0	31. 6	32. 8	35. 2	7 18. 82	0. 36	33. 31	6 6 45. 15	19. 55
	δ Ursæ Minoris, S. P.	5	13. 0	41. 0	20. 0	39. 0	21. 5	1. 7	41. 5	23. 5	41. 0	20. 7	46. 0	16 0. 81	7. 44	33. 32	. . . . .	. .
	γ Geminorum	6	14. 1	16. 3	17. 6	27. 5	28. 5	29. 8	31. 0	32. 1	42. 1	43. 3	45. 5	30 29. 80	0. 38	33. 35	6 29 56. 07	18. 61
	51 Cephei	7	. .	. .	. .	28. 0	48. 0	14. 0	38. 0	0. 0	. .	. .	. .	37 13. 60	7. 97	—33. 36	6 36 32. 27	173. 05
	Polaris, S. P.	8	. .	. .	. .	. .	. .	. .	24. 0	29. 0	39. 5	51. 5	16. 0	33 32. 00	—22 33. 28	. .	. . . . .	157. 74
19	α Aquilæ	9	. .	. .	. .	51. 1	52. 0	53. 2	54. 4	55. 4	. .	. .	. .	43 53. 22	+ 0. 05	. .	. . . . .	. .
22	δ Leonis	10	29. 2	30. 3	32. 7	57. 9	59. 0	1. 3	17. 6	20. 0	21. 3	22. 7	24. 2	7 1. 47	— 16. 50	+10. 21	11 6 55. 18	15. 79
	δ Crateris	11	. .	. .	. .	23. 1	24. 0	25. 4	26. 7	27. 7	37. 7	38. 7	40. 6	12 30. 49	5. 11	10. 20	11 12 35. 58	15. 04
	Moon II	12	45. 9	47. 8	49. 0	58. 8	0. 0	1. 3	2. 4	3. 4	13. 2	14. 4	16. 6	39 1. 16	0. 02	10. 16	11 39 11. 30	. .
	β Leonis	13	44. 4	46. 7	47. 9	57. 7	58. 8	0. 1	1. 2	2. 4	12. 3	13. 5	15. 7	42 0. 06	0. 05	10. 15	11 42 10. 16	14. 96
24	α Andromedæ	14	0. 6	2. 8	4. 4	14. 9	16. 3	17. 5	19. 0	20. 1	31. 0	32. 4	34. 7	1 17. 61	0. 11	8. 55	0 1 26. 05	16. 64
	γ Pegasi	15	54. 0	56. 2	57. 7	7. 4	8. 6	9. 7	10. 9	11. 9	22. 0	23. 1	25. 3	6 9. 71	— 0. 05	8. 54	0 6 18. 20	16. 45
	Lacaille 46	16	59. 7	0. 4	1. 9	13. 6	15. 0	16. 4	17. 8	19. 2	31. 1	32. 6	35. 5	13 16. 47	+ 0. 15	8. 52	0 13 25. 14	15. 77
	Lacaille 60	17	. .	. .	. .	7. 5	8. 9	11. 5	30. 4	33. 3	34. 9	36. 6	37. 9	16 25. 12	— 32. 06	8. 52	0 16 1. 58	15. 74
	Neptune	18	50. 9	52. 9	54. 0	3. 6	4. 7	5. 8	7. 0	8. 0	17. 7	18. 8	20. 8	23 5. 84	0. 00	8. 50	0 23 14. 34	. .
	O. Arg. S. 284	19	31. 1	33. 5	34. 8	45. 8	46. 9	48. 2	49. 5	50. 7	1. 5	2. 8	5. 3	28 48. 19	+ 0. 10	8. 49	0 28 56. 78	15. 74
	O. Arg. S. 369	20	33. 4	35. 6	37. 0	47. 1	48. 2	49. 5	50. 8	51. 8	2. 2	3. 4	5. 7	35 49. 52	+ 0. 08	8. 48	0 35 58. 08	15. 85
	Weisse 665	21	. .	. .	. .	10. 0	11. 2	13. 0	28. 5	30. 8	32. 0	33. 4	34. 7	39 24. 20	— 26. 12	8. 48	0 39 6. 56	16. 55
	Lalande 1299	22	55. 9	57. 8	59. 1	8. 6	9. 6	10. 8	11. 8	13. 0	22. 8	23. 9	26. 0	10 41. 85	0. 02	8. 47	0 41 19. 30	16. 56
	ε Piscium	23	34. 0	36. 1	37. 3	46. 8	47. 9	49. 1	50. 4	51. 4	1. 0	2. 2	4. 4	55 49. 15	0. 03	8. 45	0 55 57. 57	16. 75
	Polaris	24	24. 0	45. 0	38. 0	2. 0	46. 0	34. 0	22. 0	5. 0	42. 0	27. 0	51. 0	10 36. 00	8. 55	8. 43	. . . . .	153. 30
	η Piscium	25	53. 3	55. 4	56. 6	6. 5	7. 6	8. 8	9. 9	11. 0	21. 2	23. 2	24. 5	24 8. 91	0. 05	8. 39	1 24 17. 25	17. 41
	Polaris, S. P.	26	. .	. .	. .	59. 0	18. 0	26. 0	36. 0	56. 0	. .	. .	. .	10 27. 00	— 1. 32	7. 09	. . . . .	153. 06
	Moon II	27	10. 7	12. 8	14. 1	23. 8	24. 8	26. 1	27. 4	28. 6	38. 6	39. 6	41. 7	13 26. 20	+ 0. 01	7. 09	13 13 33. 30	. .
	α Virginis	28	42. 3	44. 3	45. 6	55. 0	56. 0	57. 3	58. 6	59. 7	9. 4	10. 6	12. 7	17 57. 41	+ 0. 01	. .	. . . . .	15. 19
N. 25	ω Piscium	†29	. .	. .	32. 8	48. 0	2. 9	17. 9	33. 1	48. 2	3. 1	. .	. .	52 18. 00	— 0. 02	5. 70	23 52 23. 68	16. 25
	α Andromedæ	†30	. .	. .	29. 1	46. 4	3. 2	20. 1	37. 3	. .	11. 2	. .	. .	1 4. 55	+ 5. 77	5. 69	0 1 26. 01	16. 63
	γ Pegasi	†31	. .	. .	26. 1	41. 6	57. 1	12. 4	28. 0	43. 8	58. 9	. .	. .	6 12. 56	+ 0. 03	5. 68	0 6 18. 27	16. 44
	Neptune	†32	. .	. .	21. 1	36. 3	51. 2	6. 0	11. 2	36. 4	51. 1	. .	. .	23 6. 19	— 0. 05	5. 65	0 23 11. 79	. .
Y. 29	Neptune	33	47. 1	49. 2	50. 4	59. 9	0. 9	2. 0	3. 2	4. 3	14. 0	15. 2	17. 3	23 2. 14	+ 0. 01	0. 29	0 23 2. 44	. .
	O. Arg. S. 312	34	5. 6	8. 1	9. 6	20. 5	21. 6	22. 9	24. 4	25. 5	37. 0	38. 3	40. 5	31 23. 10	— 0. 21	0. 29	0 31 23. 18	15. 59
	Lacaille 169	35	38. 2	41. 7	42. 0	53. 0	54. 1	55. 5	56. 8	58. 1	9. 4	10. 8	13. 2	33 55. 71	0. 21	0. 29	0 33 55. 79	15. 56
	β Ceti	36	33. 4	35. 7	37. 0	47. 0	48. 1	49. 4	50. 6	51. 8	1. 9	3. 0	5. 4	36 49. 39	— 0. 12	0. 29	0 36 49. 56	15. 92
	Polaris	37	50. 0	47. 0	35. 5	27. 0	1. 0	. .	54. 0	30. 0	20. 0	13. 0	7. 5	10 23. 60	+ 14. 26	0. 27	. . . . .	. .
		38	10. 5	30. 0	22. 5	46. 5	28. 5	17. 0	5. 5	47. 0	21. 5	9. 5	32. 0					
	O. Arg. S. 1066	39	44. 9	46. 0	47. 3	48. 6	49. 7	. .	19. 2	21. 7	23. 0	24. 4	25. 8	41 5. 06	— 17. 80	0. 26	1 40 47. 52	15. 60
	O. Arg. S. 1151	40	20. 3	22. 5	23. 9	34. 3	35. 4	36. 6	37. 9	39. 1	49. 7	50. 9	53. 2	45 36. 71	0. 16	0. 25	1 45 36. 80	15. 22
	Lacaille 586, (1st *)	41	3. 7	5. 1	6. 4	7. 7	10. 4	. .	16. 0	18. 6	20. 0	21. 3	23. 7	52 43. 29	0. 42	0. 25	1 52 43. 12	15. 19
	Lacaille 586, (2d *)	42	27. 2	29. 3	30. 6	40. 9	42. 0	43. 4	44. 7	45. 9	56. 4	57. 6	0. 0	52 43. 45	0. 16	0. 25	1 52 43. 54	15. 19
	O. Arg. S. 1266	43	57. 6	59. 8	1. 1	11. 8	12. 8	14. 2	15. 5	16. 6	27. 2	28. 4	30. 8	57 14. 16	— 0. 17	0. 25	1 57 14. 24	15. 00
	α Arietis	44	19. 2	21. 4	22. 8	32. 9	34. 1	35. 4	36. 7	37. 8	48. 3	49. 6	51. 8	59 35. 45	+ 0. 15	0. 25	1 59 35. 85	18. 49
	O. Arg. S. 1354	45	25. 0	27. 2	28. 7	39. 6	40. 8	42. 3	43. 6	44. 8	55. 8	57. 1	59. 5	3 42. 22	— 0. 20	0. 25	2 3 42. 27	14. 65
	* — 27° 53′	46	59. 8	2. 1	3. 5	14. 3	15. 4	16. 7	18. 0	19. 2	30. 3	31. 5	33. 7	23 16. 77	0. 19	0. 24	2 23 16. 82	14. 62
	O. Arg. S. 1630	47	. .	. .	. .	. .	. .	. .	6. 9	9. 6	11. 0	12. 4	13. 8	27 10. 74	38. 16	0. 24	2 26 32. 82	14. 62
	O. Arg. S. 1744	48	40. 0	42. 0	43. 4	53. 4	54. 5	55. 7	56. 9	58. 0	8. 2	9. 4	11. 6	34 55. 74	— 0. 12	0. 23	2 34 55. 85	15. 36
	Weisse 615	49	9. 3	11. 3	12. 6	22. 3	23. 4	24. 6	25. 8	26. 8	36. 7	38. 0	40. 0	36 24. 62	+ 0. 08	0. 23	2 36 24. 93	17. 95
	Weisse 639	50	32. 2	34. 2	35. 5	45. 3	46. 3	47. 5	48. 7	49. 7	59. 7	0. 9	3. 0	37 47. 55	+ 0. 08	+ 0. 23	2 37 47. 86	— 17. 95

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 22, 11. 3	+ 10. 19	— 0. 110	— 0. 020
24, 0. 6	8. 48	0. 110	0. 000
25, 0. 0	5. 69	0. 110	0. 000
29, 3. 4	+ 0. 21	— 0. 027	0. 000

29–32. Observed with eye and ear.

November 17, 19h. Image east 0. 31. Clamp west.
Image west 0. 46. Clamp east.
At 20h. reduced the collimation.
November 19. Before observing set clock back one minute.
November 23, 20h. Lengthened the pendulum of the clock two divisions.

November 21, 18h. 0m. Image west 0. 12. Clamp west.
Image east 0. 03. Clamp east.
29, 6h. 10m. Image west 0. 10. Clamp east.

November 22 . . . . . n. = — 0. 10.
24, 0h. to 2h. 0. 21.
13h. to 14h. — 0. 08.
25–29 . . . . + 0. 35.

DATE.	OBJECT.		Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
				I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.				s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Nov. 29		Weisse 724 . . .	1	35. 0	37. 0	38. 3	48. 0	49. 0	50. 3	51. 5	52. 7	2. 5	3. 7	5. 8	42 50. 35	+ 0. 08	+ 0. 23	2 42 50. 66	− 18. 04
Y.		B. A. C. 894 . .	2	. .	. .	. .	. .	. .	. .	49. 9	52. 9	54. 4	55. 8	57. 4	46 54. 08	− 39. 63	0. 23	2 46 14. 68	14. 09
		O. Arg. S. 1901 .	3	40. 2	42. 4	44. 0	55. 0	56. 2	57. 6	59. 0	0. 2	11. 5	12. 9	15. 4	48 57. 67	0. 22	0. 23	2 48 57. 68	14. 06
		* — 27° 29′ . .	4	35. 6	37. 8	39. 2	50. 0	51. 2	52. 5	53. 8	55. 0	5. 8	7. 1	9. 5	52 52. 50	0. 19	0. 22	2 52 52. 53	14. 43
		O. Arg. S. 1968 .	5	40. 4	42. 6	44. 0	54. 7	55. 8	57. 4	58. 7	59. 8	10. 9	12. 1	14. 4	54 57. 35	0. 19	0. 22	2 54 57. 38	14. 34
		* — 23° 41′ . .	6	58. 9	1. 0	2. 3	. .	. .	. .	. .	. .	28. 1	29. 4	31. 7	58 15. 23	0. 20	0. 22	2 58 15. 25	14. 76
		Lacaille 983 . .	7	24. 7	27. 0	28. 4	39. 9	41. 0	42. 5	43. 8	45. 0	56. 6	57. 9	0. 4	1 42. 47	0. 23	0. 22	3 1 42. 46	13. 78
	δ	Arietis	8	40. 5	42. 6	44. 0	54. 1	55. 1	56. 4	57. 6	58. 7	8. 8	10. 0	12. 3	3 56. 37	0. 12	0. 22	3 3 56. 71	18. 89
		* — 18° 9′ . . .	9	42. 7	44. 8	46. 4	56. 2	57. 2	58. 5	59. 7	0. 7	11. 0	12. 1	14. 4	6 58. 50	0. 11	0. 22	3 6 58. 61	15. 26
		* — 18° 9′ . . .	10	. .	. .	. .	28. 9	30. 0	32. 2	48. 2	50. 8	52. 0	53. 3	54. 9	7 43. 79	27. 48	0. 22	3 7 16. 53	15. 26
		Lacaille 1041 . .	11	7. 2	9. 4	10. 7	21. 1	22. 3	23. 6	24. 8	26. 0	36. 4	37. 8	38. 1	11 23. 40	0. 16	0. 22	3 11 23. 46	14. 65
		B. A. C. 1049 . .	12	15. 3	17. 4	18. 8	29. 4	30. 3	31. 6	32. 8	34. 0	44. 7	46. 0	48. 3	15 31. 69	0. 16	0. 21	3 15 31. 74	14. 62
		O. Arg. S. 2245 .	13	52. 3	54. 5	55. 8	5. 9	7. 0	8. 3	9. 6	10. 7	21. 0	22. 4	24. 6	18 8. 37	0. 14	0. 21	3 18 8. 44	14. 88
		* — 27° 48′ . .	14	. .	. .	. .	8. 4	9. 7	12. 0	29. 1	31. 9	33. 3	34. 7	36. 3	20 24. 42	29. 60	0. 21	3 19 55. 03	14. 20
		Lacaille 1113 . .	15	26. 6	28. 8	30. 2	40. 5	41. 6	42. 9	44. 3	45. 5	56. 0	57. 2	59. 5	23 43. 01	0. 16	0. 21	3 23 43. 06	14. 59
	ε	Eridani	16	20. 5	22. 5	23. 9	33. 5	34. 5	35. 7	36. 9	37. 9	47. 8	48. 9	51. 0	26 35. 74	0. 06	0. 21	3 26 35. 89	16. 01
		Lacaille 1134 . .	17	23. 7	24. 9	26. 3	27. 8	29. 0	. .	1. 7	4. 7	6. 0	7. 6	8. 9	28 46. 06	19. 82	0. 21	3 28 26. 45	13. 76
		Lacaille 1160 . .	18	28. 3	30. 7	32. 1	43. 3	44. 6	45. 9	47. 2	48. 6	59. 7	1. 0	3. 6	32 45. 91	0. 22	0. 21	3 32 45. 91	13. 64
		Lacaille 1176 . .	19	32. 9	35. 5	37. 0	48. 6	49. 7	51. 4	52. 8	54. 1	5. 7	7. 1	9. 6	34 51. 31	0. 25	0. 21	3 34 51. 27	13. 21
		Lacaille 1196 . .	20	28. 8	31. 2	32. 5	43. 6	44. 7	46. 2	47. 6	48. 8	0. 1	1. 5	4. 0	37 46. 27	0. 22	0. 02	3 37 46. 25	13. 64
		O. Arg. S. 2533 .	21	47. 6	49. 7	51. 1	1. 5	2. 5	3. 8	5. 1	6. 3	16. 8	18. 1	20. 4	41 3. 90	0. 15	0. 20	3 41 3. 95	14. 54
		O. Arg. S. 2556 .	22	. .	. .	. .	53. 3	54. 5	56. 8	13. 0	15. 7	17. 0	18. 3	19. 8	43 8. 55	28. 07	0. 20	3 42 40. 68	14. 79
		* — 32° 41′ . .	23	41. 4	43. 8	45. 3	56. 6	57. 7	59. 2	0. 6	1. 9	13. 6	14. 7	17. 3	44 59. 28	0. 23	0. 20	3 44 59. 25	13. 43
		O. Arg. S. 2623 .	24	52. 4	54. 5	55. 8	6. 2	7. 3	8. 5	9. 8	10. 9	21. 5	22. 8	25. 1	48 8. 62	0. 15	0. 20	3 48 8. 67	14. 51
		O. Arg. S. 2741 .	25	46. 4	48. 6	50. 0	0. 2	1. 2	2. 4	3. 8	4. 9	15. 4	16. 6	18. 7	56 2. 56	0. 14	0. 20	3 56 2. 62	14. 72
		Lacaille 1346 . .	†26	0. 9	3. 3	4. 7	15. 9	17. 0	18. 4	19. 7	20. 9	32. 3	33. 6	36. 1	0 18. 44	0. 22	0. 19	4 0 18. 41	13. 48
	ο¹	Eridani	27	3. 0	5. 1	6. 3	15. 8	16. 8	18. 0	19. 2	20. 3	30. 0	31. 1	33. 3	5 18. 08	0. 05	0. 19	4 5 18. 22	16. 25
		O. Arg. S. 2938 .	28	46. 1	48. 3	49. 6	0. 0	1. 1	2. 3	3. 5	4. 7	15. 1	16. 4	18. 7	10 2. 35	− 0. 15	0. 19	4 10 2. 39	14. 41
	α	Tauri	29	56. 7	58. 8	0. 1	9. 9	11. 0	12. 3	13. 5	14. 6	24. 5	25. 8	28. 0	28 12. 29	+ 0. 10	0. 18	4 28 12. 57	19. 00
		Mars I	30	0. 4	2. 6	4. 0	14. 3	15. 4	16. 8	18. 0	19. 1	29. 7	31. 0	33. 3	31 16. 78	+ 0. 16	0. 18	4 31 17. 12	. .
		Mars II	31	38. 9	40. 4	41. 6	43. 0	45. 6	. .	52. 2	53. 6	55. 0	56. 3	57. 9	31 18. 45	− 0. 10	0. 18	4 31 18. 53	. .
		Fides	32	36. 2	38. 6	39. 8	50. 7	51. 7	53. 0	54. 3	55. 5	6. 6	7. 7	10. 0	48 53. 10	+ 0. 18	0. 17	4 48 53. 45	. .
	α	Orionis	33	38. 3	40. 3	41. 6	51. 1	52. 0	53. 3	54. 5	55. 5	5. 3	6. 4	8. 5	47 53. 35	0. 05	0. 14	5 47 53. 54	17. 90
		Uranus	34	59. 7	1. 8	3. 3	13. 6	14. 7	16. 0	17. 3	18. 5	29. 0	30. 3	32. 5	52 16. 06	0. 15	+ 0. 14	5 52 16. 35	. .
30	ε	Bootis	35	49. 5	51. 6	53. 0	3. 5	4. 7	6. 1	7. 5	8. 7	19. 6	20. 9	23. 3	39 6. 22	0. 19	− 2. 15	14 39 4. 26	11. 90
	α	Coronæ Borealis .	†36	42. 2	44. 6	45. 8	56. 4	57. 6	58. 9	0. 4	1. 4	12. 3	13. 6	15. 8	28 59. 00	+ 0. 19	2. 21	15 28 56. 98	11. 38
Dec. 1		Sun I	†37	17. 0	19. 1	20. 6	30. 8	32. 0	33. 5	34. 7	35. 8	46. 2	47. 4	49. 7	31 33. 35	− 0. 14	2. 27	16 31 30. 94	. .
		Sun II	38	37. 8	39. 8	41. 2	51. 7	52. 6	53. 9	55. 1	56. 4	6. 5	8. 0	10. 3	33 53. 94	− 0. 14	2. 27	16 33 51. 53	. .
	α	Lyræ	39	3. 8	6. 3	8. 0	20. 1	21. 3	22. 9	24. 5	25. 8	38. 2	39. 7	42. 2	32 22. 98	+ 0. 28	2. 38	18 32 20. 88	− 8. 90
6		Venus I	40	32. 9	34. 9	36. 4	46. 7	47. 8	49. 2	50. 5	51. 7	2. 2	3. 5	5. 7	29 49. 23	− 0. 39	5. 88	19 29 42. 96	+ 0. 50
	γ	Aquilæ	41	40. 3	42. 3	43. 5	53. 2	54. 2	55. 5	56. 7	57. 8	7. 5	8. 7	10. 9	39 55. 51	+ 0. 19	5. 88	19 39 49. 82	− 13. 61
	α	Aquilæ	42	1. 6	3. 7	5. 0	14. 5	15. 6	16. 8	18. 1	19. 1	28. 9	30. 0	32. 2	44 16. 86	0. 16	5. 88	19 44 11. 14	14. 01
		Moon I	43	44. 5	46. 5	47. 7	57. 4	58. 4	59. 7	0. 9	2. 0	11. 9	13. 2	15. 3	30 59. 77	0. 03	5. 87	23 30 53. 93	. .
	ι	Piscium	44	51. 8	53. 9	55. 1	4. 6	5. 6	6. 8	8. 0	9. 0	18. 6	19. 7	21. 7	33 6. 80	+ 0. 10	5. 87	23 33 1. 03	16. 05
		B. A. C. 8287 . .	45	25. 8	27. 8	29. 1	39. 2	40. 3	41. 6	42. 8	44. 0	54. 3	55. 7	57. 8	43 41. 67	− 0. 34	5. 87	23 43 35. 46	15. 99
		Lalande 46769 . .	46	. .	. .	. .	46. 0	47. 0	48. 3	49. 6	50. 8	1. 0	2. 2	4. 4	45 53. 66	5. 56	5. 87	23 45 42. 23	15. 98
		Lacaille 9663 . .	47	28. 3	30. 7	32. 2	43. 6	44. 9	46. 3	47. 7	49. 0	0. 6	1. 9	4. 4	50 46. 33	− 0. 61	5. 87	23 50 39. 85	15. 92
	ω	Piscium	48	14. 2	16. 2	17. 4	27. 0	28. 0	29. 2	30. 5	31. 5	41. 0	42. 3	44. 4	52 29. 25	+ 0. 12	5. 87	23 52 23. 50	16. 12
		O. Arg. S. 23206 .	49	. .	. .	. .	. .	. .	. .	40. 3	43. 0	44. 3	45. 6	47. 1	56 44. 06	− 36. 33	5. 87	23 56 1. 86	15. 93
		Weisse 1222 . .	50	0. 7	2. 7	4. 0	13. 5	14. 5	15. 7	16. 9	18. 0	27. 6	28. 8	30. 8	0 15. 75	+ 0. 12	− 5. 87	0 0 10. 00	− 16. 14

26. Saw but one star.
36–37. Faint.

December 6, 6h. 3m. Image 0. 00 r. Clamp east.
Image west 0. 27. Clamp west.

November 30–December 1, n. = + 0. 35 s.
December 6, ... + 0. 93.
Reduced the azimuth error.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Nov. 30, 16. 2	− 2. 25	− 0. 055	0. 000
Dec. 6, 0. 1	− 5. 87	+ 0. 003	+ 0. 028

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. Dec. 6	* — 33° 33′ . .	1	17.2	19.7	21.2	32.6	33.7	35.1	36.6	37.8	49.7	50.9	53.2	4 35.25	— 0.59	— 5.87	0 4 28.79	— 15.74
Y.	O. Arg. S. 65 . .	2	43.4	45.6	46.8	57.3	58.3	59.5	0.8	2.0	12.6	13.9	16.1	6 59.66	0.39	5.87	0 6 53.40	15.73
	Lacaille 26 . . .	3	7.7	9.4	10.7	12.3	14.8	. .	27.1	29.9	31.3	32.9	34.5	9 51.06	0.87	5.87	0 9 44.32	15.68
	B. A. C. 49 . . .	4	18.1	19.6	21.0	22.5	25.3	. .	37.3	40.2	41.5	43.2	44.8	10 1.35	0.87	5.87	0 9 54.61	15.68
	* — 33° 31′ . .	5	18.5	21.0	22.5	33.7	35.0	36.6	37.8	39.0	51.5	52.0	54.4	13 36.55	0.59	5.87	0 13 30.09	15.67
	O. Arg. S. 138 . .	6	. .	. .	. .	22.2	23.6	25.7	42.6	45.1	46.2	47.7	49.2	15 37.79	— 28.82	5.87	0 15 3.10	15.78
	Neptune	7	41.3	43.4	44.8	54.1	55.2	56.4	57.6	58.6	8.2	9.4	11.5	22 56.41	+ 0.04	5.87	0 22 50.58	. .
	B. A. C. 135 . .	8	49.7	52.0	53.5	4.5	5.6	7.1	8.4	9.7	21.0	22.2	24.6	27 7.12	— 0.52	5.87	0 27 0.73	15.54
	β Ceti	9	39.8	41.9	43.1	53.3	54.3	55.6	56.9	57.9	8.2	9.4	11.4	36 55.62	— 0.30	5.87	0 36 49.45	15.84
	Polaris	10	27.0	23.5	14.0	3.5	38.5	. .	30.0	7.5	56.5	51.0	44.0	9 55.95	+ 39.05	5.87	. . . .	. .
		11	47.0	4.5	58.0	24.0	5.0	54.5	42.5	25.0	58.5	47.5	9.0					
	O. Arg. S. 1066 .	12	37.8	39.9	41.2	51.3	52.3	53.6	54.8	56.0	6.0	7.2	9.3	40 53.58	— 0.29	5.87	1 40 47.42	15.55
	O. Arg. S. 1151 .	13	. .	. .	. .	55.8	57.0	59.3	16.0	18.6	19.9	21.4	22.7	46 11.34	28.82	5.87	1 45 36.65	15.17
	* — 23° 35′ . .	14	10.0	11.4	12.9	14.2	16.6	. .	22.2	24.8	26.2	27.7	29.2	52 49.52	0.65	5.86	1 52 43.01	15.14
	* — 23° 35′ . .	15	2.7	3.9	6.1	47.3	48.4	49.7	51.0	52.2	33.3	35.5	36.9	52 49.73	0.39	5.86	1 52 43.48	15.14
	* — 18° 11′ . .	16	19.8	21.8	23.1	33.2	34.3	35.5	36.7	37.9	48.1	49.2	51.4	57 35.55	0.29	5.86	1 57 29.40	15.48
	67 Ceti	17	7.3	9.3	10.6	20.1	21.0	22.3	23.5	24.5	34.2	35.4	37.5	10 22.34	0.09	5.86	2 10 16.39	16.27
	* — 18° 19′ . .	18	35.0	37.0	38.2	48.4	49.4	50.6	51.9	53.0	3.3	4.5	6.6	15 50.63	— 0.29	5.86	2 15 44.48	15.41
	ξ² Ceti	†19	51.3	53.3	54.5	4.0	5.1	6.3	7.5	8.4	18.1	19.4	21.6	21 6.32	+ 0.15	5.86	2 21 0.61	17.41
	α Tauri	†20	. .	. .	. .	30.5	31.6	33.7	49.5	52.0	53.3	54.6	56.1	28 45.16	— 26.80	5.86	4 28 12.50	19.07
7	Moon I	21	7.3	9.2	10.6	20.4	21.4	22.6	23.8	24.9	34.8	36.0	37.9	26 22.63	0.02	5.35	0 26 17.26	. .
E.	δ Piscium	22	32.1	34.2	35.5	44.9	46.1	47.2	48.4	49.5	59.1	0.3	2.4	41 47.25	0.02	5.37	0 41 41.86	16.52
	ε Piscium	23	47.6	49.8	51.1	0.4	1.6	2.9	3.9	5.1	14.8	15.9	18.1	56 2.84	0.03	5.38	0 55 57.43	16.65
	η Piscium	24	7.1	9.2	10.6	20.1	21.2	22.5	23.7	24.9	34.8	36.1	38.3	24 22.59	0.07	5.49	1 24 17.12	17.33
	ν Piscium	25	16.2	18.2	19.5	28.9	29.9	. .	32.3	33.5	42.9	44.4	46.4	34 31.22	0.03	5.41	1 34 25.78	16.83
	ξ Piscium	26	25.8	27.8	29.1	38.5	39.6	40.8	42.0	43.1	52.7	53.9	55.8	46 40.83	0.00	5.42	1 46 35.41	16.79
	ξ² Ceti	27	50.8	53.0	54.3	3.7	4.7	6.0	7.2	8.3	17.9	19.1	21.1	21 6.01	0.03	5.45	2 21 0.53	17.40
	γ Ceti	28	10.3	12.4	13.6	23.0	24.1	25.4	26.5	27.7	37.3	38.4	40.5	36 25.38	0.00	5.46	2 36 19.92	17.02
Y. 8	ε Piscium	29	48.8	51.0	52.1	1.1	2.1	3.9	5.0	6.1	15.9	17.1	19.1	56 3.95	0.04	6.46	0 55 57.45	16.64
	Moon I	30	0.3	1.6	2.9	4.3	6.6	. .	9.3	11.7	12.9	14.3	15.6	22 37.95	0.30	6.48	1 22 31.17	. .
	η Piscium	31	8.2	10.2	11.5	21.3	22.3	23.6	24.9	25.9	36.0	37.1	39.2	24 23.65	0.08	6.49	1 24 17.08	17.32
	ν Piscium	32	17.3	19.3	20.6	30.1	31.0	32.2	33.4	34.5	44.1	45.3	47.3	34 32.28	0.03	6.49	1 34 25.76	16.82
	ο Piscium	33	8.7	10.7	12.1	21.7	22.6	23.8	25.0	26.1	35.8	37.0	39.0	38 23.86	0.05	6.50	1 38 17.31	17.12
	β Arietis	34	3.3	5.6	6.8	17.0	18.1	19.4	20.7	21.8	32.0	33.2	35.5	47 19.40	— 0.12	6.53	1 47 12.75	18.02
E. 12	β Ceti	35	45.1	47.0	48.5	58.5	59.6	0.9	2.1	3.1	13.2	14.4	16.7	37 0.83	+ 0.12	11.55	0 36 49.40	15.77
	δ Piscium	36	38.1	40.4	41.8	51.0	52.0	53.3	54.4	55.6	5.3	6.5	8.7	41 53.37	— 0.05	11.56	0 41 41.76	16.47
	20 Ceti	37	4.0	5.9	7.2	17.0	17.9	19.0	20.1	21.1	31.0	32.0	34.0	46 19.02	+ 0.01	11.56	0 46 7.47	16.22
	α Sculptoris . .	38	0.7	3.0	4.5	15.4	16.5	17.9	19.4	20.5	31.6	32.8	35.3	52 17.96	+ 0.20	11.57	0 52 6.59	15.19
	26 Ceti	39	49.9	51.9	53.0	2.4	3.5	4.7	6.0	6.9	16.6	18.0	19.7	57 4.78	0.00	11.57	0 56 53.21	16.36
	* + 0° 36′ . . .	†40	22.8	24.8	26.1	35.3	36.3	37.7	39.0	40.0	49.5	50.8	52.7	4 37.73	0.00	11.58	1 4 26.15	16.41
	Polaris	41	. .	. .	. .	21.0	2.5	47.5	34.0	18.5	. .	. .	. .	10 48.70	— 12.26	11.59	. . . .	142.66
	α Persei	42	33.7	37.3	38.7	53.6	54.9	56.6	58.7	0.1	14.9	16.5	20.0	14 56.82	0.41	11.71	3 14 44.70	24.02
	Weisse 334 . . .	43	51.0	53.0	54.1	4.1	5.1	6.3	7.4	8.7	18.5	19.5	21.9	20 6.33	— 0.08	11.71	3 19 54.55	18.23
Y. 14	α Aquarii	44	51.8	53.8	55.2	4.6	5.7	6.8	8.1	9.1	18.6	19.8	21.9	59 6.85	+ 0.01	16.00	21 58 50.86	15.34
E.	Neptune	45	45.4	47.5	48.6	58.2	59.3	0.4	1.6	2.7	12.3	13.5	15.5	23 0.45	— 0.02	16.04	0 22 44.39	. .
	β Ceti	46	49.5	51.7	53.1	2.9	4.0	5.2	6.4	7.5	17.7	19.0	21.0	37 5.27	+ 0.12	16.04	0 36 49.35	15.74
	60 Piscium	47	26.7	28.8	30.1	39.4	40.5	41.8	43.0	44.1	53.6	54.9	57.0	40 41.81	— 0.05	16.04	0 40 25.72	16.42
	20 Ceti	48	8.5	9.4	11.9	21.1	22.3	23.5	24.6	25.8	35.3	36.5	38.4	46 23.33	0.00	16.05	0 46 7.28	16.20
	α Sculptoris . .	49	5.2	7.4	9.8	19.6	20.9	22.5	23.8	25.1	36.0	37.5	39.9	52 22.52	+ 0.21	16.05	0 52 6.68	15.16
	ε Piscium	50	58.4	0.5	1.7	11.2	12.3	13.5	14.7	15.8	25.5	26.6	28.5	56 13.52	— 0.06	16.05	0 55 57.41	— 16.58
	Polaris	51	. .	. .	. .	27.5	3.5	51.0	40.0	23.5	. .	. .	. .	10 53.10	— 13.75	—16.05	. . . .	. .

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Dec. 7, 1.8	— 5.42	— 0.046	+ 0.020
8, 1.5	6.49	0.050	+ 0.010
12, 1.9	11.63	0.060	0.000
14, 23.8	— 16.03	— 0.016	— 0.010

19. Unsteady.
20. Through fog.
40. Very unsteady.

December 7 . . . . n. = — 0.35 s.
8–12 . . . . 0.35.
14 . . . . — 0.38.
December 14. Clock stopped at 4h. 3m. 30s.
Clock stopped at 6h. 22m. 30s.
Clock stopped at 6h. 42m. 30s.
November 15. The clock was cleaned by Mr. Clarke, and the weight was increased.

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
1864.			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
Dec. 17	ε Eridani	†1	14.3	16.4	17.5	27.3	28.4	29.6	30.7	31.8	41.6	42.9	44.9	26 29.58	+ 0.02	+ 6.20	3 26 35.80	− 14.66
Y.	η Tauri	†2	44.7	46.0	47.4	48.6	51.2	. .	56.7	59.3	0.6	2.0	3.5	39 24.00	− 0.38	6.20	3 39 29.82	19.76
N. 20	Neptune	†3	. .	. .	. .	4.5	19.2	34.2	49.4	4.5	. .	. .	. .	22 34.36	0.10	10.78	0 22 45.04	. .
	β Ceti	†4	. .	. .	51.1	6.9	22.6	38.4	54.4	10.2	25.9	. .	. .	36 38.50	0.01	10.78	. . . .	15.67
Y.	Polaris	†5	9.0	27.5	21.0	44.5	27.5	17.5	7.0	46.5	22.0	12.0	34.0	10 18.95	9.80	9.54	. . . .	. .
	η Piscium	6	52.0	54.2	55.3	5.2	6.1	7.4	8.6	9.7	19.7	20.9	23.0	24 7.46	0.08	9.54	. . . .	17.21
	Mars I	7	40.6	42.7	44.1	54.3	55.6	56.8	58.1	59.3	9.7	11.0	13.2	1 56.86	0.12	24.80	4 2 21.54	. .
	Mars II	8	18.8	20.4	21.7	23.0	25.5	. .	30.9	33.5	34.8	36.0	37.6	1 58.22	0.38	24.80	4 2 22.64	. .
	γ Tauri	9	28.5	30.6	31.8	41.7	42.7	44.0	45.2	46.3	56.2	57.5	59.6	11 44.01	0.08	24.80	4 12 8.73	18.98
	α Tauri	10	. .	. .	. .	45.5	46.6	47.9	49.1	50.2	0.2	1.5	3.5	27 53.06	5.25	24.80	4 28 12.61	19.15
N. 22	Neptune	11	. .	. .	. .	. .	. .	. .	42.2	44.5	45.7	47.0	48.4	22 45.56	− 33.68	34.19	0 22 45.05	. .
	β Ceti	12	59.2	1.3	2.6	12.7	13.7	15.0	16.3	17.4	27.5	28.8	30.9	36 15.04	+ 0.01	34.21	0 36 49.26	15.64
	ε Piscium	13	8.0	10.0	11.3	20.8	21.8	23.1	24.2	25.3	35.0	36.2	38.3	55 23.09	− 0.03	34.24	0 55 57.30	16.49
Y.	O Arg. S. 2741 .	14	11.9	14.0	15.4	25.5	26.7	27.9	29.2	30.3	40.7	42.0	44.1	55 27.97	+ 0.02	34.64	3 56 2.63	14.73
	Mars I	15	26.7	28.1	29.4	30.7	33.1	. .	38.5	40.9	42.4	43.7	45.3	0 5.88	− 0.32	34.65	4 0 40.21	. .
	Mars II	16	50.6	52.8	54.1	4.4	5.5	6.7	8.1	9.2	19.7	21.0	23.2	0 6.85	0.06	34.65	4 0 41.44	. .
	o^1 Eridani	17	28.5	30.6	31.9	41.4	42.5	43.6	44.9	46.0	55.7	56.9	58.9	4 43.72	− 0.01	34.65	4 5 18.36	16.32
	O. Arg. S. 2938 .	18	11.5	13.7	14.9	25.4	26.4	27.8	29.0	30.1	40.6	42.0	44.4	9 27.80	+ 0.02	34.66	4 10 2.48	14.44
	* — 31° 37′ . .	19	. .	. .	. .	30.0	31.4	33.7	51.6	54.4	55.8	57.5	58.9	13 46.66	− 30.51	34.66	4 13 50.81	13.38
	O. Arg. S. 3044 .	20	10.4	12.7	14.0	24.8	26.9	27.3	28.5	29.8	40.8	42.0	44.4	17 27.33	+ 0.03	34.67	4 18 2.03	13.86
	O. Arg. S. 3082 .	21	58.6	0.9	2.2	12.5	13.6	14.9	16.2	17.3	27.9	29.2	31.4	20 14.97	0.02	34.68	4 20 49.67	14.44
	Lacaille 1485 . .	22	44.6	46.8	48.3	59.2	0.3	1.6	2.9	4.1	15.4	16.6	18.9	24 1.70	0.03	34.68	4 24 36.41	13.68
	Fides	23	7.4	9.8	11.1	21.6	22.7	24.0	25.4	26.7	37.4	38.8	41.1	26 24.18	0.03	34.68	4 26 58.89	13.97
	* — 26° 58′ . .	24	35.3	37.3	38.8	49.4	50.5	51.9	53.3	54.4	5.2	6.5	8.8	27 51.95	+ 0.03	34.68	4 28 26.66	13.97
	μ Eridani	25	57.3	59.3	0.5	10.1	11.1	12.4	13.5	14.6	24.1	25.4	27.5	38 12.35	− 0.01	34.70	4 38 47.04	16.82
	O. Arg. S. 3389 .	26	50.7	53.0	54.4	5.4	6.5	7.8	9.2	10.4	21.6	22.9	25.3	41 7.93	+ 0.03	34.71	4 41 42.67	13.58
	O. Arg. S. 3630 .	27	43.2	45.5	46.8	57.6	58.6	.	1.3	2.6	13.6	14.8	17.1	58 0.10	+ 0.02	34.73	4 58 34.85	13.80
	O. Arg. S. 3680 .	†28	. .	. .	. .	4.4	5.5	7.0	8.3	9.5	20.3	21.6	24.0	1 12.57	− 5.62	34.74	5 1 41.69	13.67
	* — 25° 34′ . .	29	. .	. .	. .	10.6	11.7	12.8	14.1	15.4	26.2	27.5	29.4	4 18.46	5.47	34.74	5 4 47.73	14.11
	Fortuna	30	30.3	32.4	33.6	43.8	44.9	46.1	47.4	48.6	58.8	0.0	2.3	9 46.20	− 0.06	34.75	5 10 20.89	. .
	* — 20° 10′ . .	31	. .	. .	. .	11.5	12.6	13.8	15.0	16.2	. .	. .	. .	16 13.82	+ 0.07	34.76	5 16 48.65	14.81
	Weisse 776 . . .	32	54.9	56.8	58.1	7.5	8.6	9.8	11.0	12.0	21.6	22.7	25.0	31 9.82	− 0.02	14.81	5 31 24.61	17.12
	α Columbæ . . .	33	14.7	. .	. .	30.0	31.3	. .	34.2	. .	47.3	48.6	51.1	34 36.74	− 3.86	14.81	5 34 47.69	12.86
	O. Arg. S. 4355 .	34	40.8	43.0	44.4	55.2	56.4	57.7	58.9	0.1	11.1	12.2	14.4	43 57.65	+ 0.03	14.82	5 44 12.50	14.00
	Uranus	35	32.7	35.1	36.5	46.7	47.8	49.1	50.0	51.5	2.0	3.4	5.7	47 49.14	− 0.06	14.82	5 48 3.90	. .
	ν Orionis	36	23.7	25.8	27.1	36.9	38.0	39.1	40.5	41.5	51.4	52.6	54.8	59 39.22	0.05	14.83	5 59 54.00	− 19.18
	δ Ursæ Minoris, S. P.	37	. .	. .	. .	. .	. .	. .	6.0	45.0	5.0	26.5	48.5	24 2.20	9 18.23	44.58	18 15 28.55	+ 122.75
	γ Geminorum . . .	38	56.8	58.8	0.1	10.0	11.1	12.3	13.6	14.6	24.7	25.8	27.9	29 12.34	− 0.05	44.58	6 29 56.87	− 19.39
	Euterpe	39	. .	. .	. .	54.1	55.2	57.4	13.9	16.6	18.0	19.3	20.7	54 9.40	28.33	44.59	6 54 25.66	. .
	44 Geminorum . . .	40	11.9	13.9	15.3	25.8	26.9	28.2	29.4	30.5	41.1	42.2	44.5	56 28.15	0.06	44.59	6 57 12.68	20.15
	δ Geminorum . . .	41	4.8	7.0	8.3	18.5	19.7	21.0	22.2	23.4	33.9	35.0	37.3	11 21.01	0.06	44.59	7 12 5.54	19.97
	θ Virginis . . .	42	58.3	0.1	1.6	11.1	12.2	13.3	14.4	15.5	25.3	26.4	28.4	2 13.33	− 0.01	44.67	13 2 57.99	15.80
	Polaris, S. P. . .	43	. .	. .	. .	56.0	37.0	25.5	15.0	58.0	. .	. .	. .	9 26.30	+ 2.96	44.67	1 10 13.93	134.33
	α Virginis . . .	44	5.4	7.4	8.7	18.4	19.4	20.6	21.8	22.8	32.8	33.9	36.1	17 20.66	0.00	44.66	13 18 5.32	16.03
	Moon II	45	18.8	20.9	22.1	31.9	33.0	34.3	35.5	36.5	46.7	47.9	49.9	41 34.32	0.00	44.67	13 42 18.99	. .
	η Bootis	46	14.8	16.8	18.3	28.3	29.3	30.6	31.9	32.9	43.2	44.5	46.6	48 30.65	0.06	+ 44.67	13 49 15.26	14.06
24	η Aquarii . . .	47	12.4	14.4	15.8	25.2	26.2	27.3	28.6	29.6	39.2	40.4	42.4	28 27.41	0.03	− 2.29	22 28 25.09	15.41
	α Pegasi	48	49.4	51.5	52.8	2.6	3.6	4.8	6.0	7.2	17.1	18.3	20.5	58 4.89	0.10	2.26	22 58 2.53	15.17
	Radcliffe 6067 . .	49	21.1	24.4	26.5	42.8	44.6	46.5	48.6	50.5	6.9	8.9	12.6	18 46.67	0.40	2.24	23 18 44.03	14.40
	Radcliffe 6081 . .	50	31.3	34.6	37.0	53.0	54.6	56.7	58.6	0.6	17.0	18.9	22.5	20 56.80	− 0.39	− 2.24	23 20 54.17	− 14.53

1. Blurred; through clouds.
2. Through clouds.
3–4. Observed with eye and ear.
5. Steady.
28. Faint.

s.
December 17–20 . . . n. = − 0.22.
22 . . . 0.10.
24 . . . − 0.25.
December 20. 1h. 27m., clock stopped.
December 22. Clock stopped at 5h. 19m.
Clock stopped at 6h. 1m.

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Dec. 17, 3.6	+ 6.20	. .	− 0.020
20, 0.6	10.78	. .	. .
1.4	9.54	. .	. .
4.4	24.80	. .	. .
22, 2.6	34.52	+ 0.090	0.020
5.8	14.82	0.052	0.020
10.8	+ 44.64	0.014	0.020
24, 23.6	− 2.22	+ 0.068	− 0.030

DATE.	OBJECT.	Number.	SECONDS OF TRANSIT.												CORRECTIONS.		Observed R. Ascension.	Reduct'n to 1860.0.
			I.	II.	III.	IV.	V.	VI.	VII.	VIII	IX.	X.	XI.	Mean.	Inst.	Clock.		
			s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m. s.	m. s.	s.	h. m. s.	s.
1864. Dec. 24 Y.	O. Arg. S. 22897	1	..	..	..	1.4	2.5	3.8	5.0	6.2	16.6	17.9	20.0	26 9.17	− 5.24	− 2.23	23 26 1.70	− 15.85
	21 Piscium	2	20.4	21.4	23.7	33.2	34.1	35.3	36.5	37.6	47.3	48.5	50.5	42 35.32	− 0.03	2.21	23 42 33.08	15.77
	O. Arg. S. 23120	3	27.0	29.2	30.7	40.8	42.0	43.3	44.6	45.8	56.4	57.5	59.8	47 43.37	+ 0.08	2.21	23 47 41.24	15.72
	O. Arg. S. 23126	†4	36.0	38.3	39.7	50.0	51.2	52.4	53.7	54.9	5.7	6.8	8.8	48 52.41	+ 0.08	2.21	23 48 50.28	15.71
	ω Piscium	5	10.5	12.5	13.7	23.3	24.4	25.5	26.8	27.8	37.5	38.7	40.7	52 25.58	− 0.06	2.20	23 52 23.32	15.91
	Weisse 71	6	52.2	54.2	55.4	5.0	6.0	7.2	8.4	9.4	19.1	20.2	22.3	5 7.22	0.03	2.20	0 5 4.99	15.89
	Neptune	7	35.0	37.1	38.4	47.9	48.9	50.1	51.2	53.3	2.0	3.1	5.1	22 50.19	0.03	2.17	0 22 47.99	..
	Weisse 477	8	20.0	22.1	23.4	32.6	33.7	34.9	36.0	37.3	45.8	48.0	50.0	28 34.89	0.05	2.16	0 28 32.68	16.13
	Weisse 556	9	..	..	..	22.0	23.1	24.4	25.4	26.6	36.3	37.5	39.5	33 29.35	5.02	2.15	0 33 22.18	16.20
	Weisse 616	10	6.0	8.1	9.3	18.7	19.8	21.0	22.2	23.4	33.0	34.2	36.2	36 21.08	0.05	2.15	0 36 18.88	16.26
	Weisse 845	11	..	..	..	10.6	11.7	12.9	14.0	15.0	24.8	25.9	27.9	49 17.85	− 4.98	2.14	0 49 10.73	16.01
	O. Arg. S. 542	12	29.7	32.1	33.5	44.3	45.4	46.8	48.1	49.2	0.2	1.5	3.7	51 46.77	+ 0.10	2.13	0 51 44.74	15.12
	ε Piscium	13	44.4	46.4	47.8	57.1	58.2	59.5	0.7	1.8	11.3	12.5	14.7	55 59.49	− 0.06	2.13	0 55 57.30	16.47
	Weisse 1041	14	..	..	..	46.1	47.2	49.3	4.4	6.8	8.2	9.4	10.6	1 0.25	26.05	2.13	0 59 32.07	16.16
	Weisse 20	15	4.7	6.6	7.8	17.2	18.3	19.5	20.8	21.8	31.4	32.5	34.6	3 19.56	0.04	2.12	1 3 17.40	16.34
	Polaris	16	..	..	..	57.5	37.0	27.5	16.5	58.0	..	..	..	10 27.30	9.49	2.12	....	133.29
N.	11 Orionis	†17	..	8.9	..	24.5	39.9	55.4	11.0	26.8	..	42.0	..	56 55.50	0.16	− 1.86	....	19.15
E. 28	Sun II	18	42.4	44.9	46.4	56.6	57.7	58.9	0.2	1.3	12.0	13.1	15.3	32 58.98	− 0.23	+ 3.24	18 33 1.99	71.14
	α Cygni	19	24.2	26.6	28.7	42.0	43.4	45.2	46.8	48.4	1.9	3.5	6.5	36 45.20	+ 0.36	3.36	....	9.34
Y. 29	γ Eridani	20	25.0	27.2	28.3	38.2	39.1	40.4	41.6	42.7	52.7	53.9	55.9	51 40.45	− 0.15	5.18	3 51 45.48	15.56
	Mars I	21	14.8	17.0	18.3	28.7	29.7	31.0	32.2	33.4	43.9	45.2	47.5	56 31.06	+ 0.14	5.18	3 56 36.38	..
	Mars II	22	53.4	54.9	56.0	57.3	59.8	..	5.0	7.7	9.0	10.4	11.9	56 32.54	− 0.12	5.18	3 56 37.60	..
	O. Arg. S. 2803	23	4.9	7.0	8.4	18.8	19.9	21.3	22.6	23.6	34.0	35.5	37.6	0 21.24	0.23	5.18	4 0 26.19	14.42
	* − 28° 10′	24	32.5	34.7	36.1	47.0	48.2	49.4	50.8	51.9	3.0	4.2	6.7	3 49.50	0.27	5.18	4 3 54.41	13.84
	* − 28° 18′	25	44.0	46.3	47.6	58.5	59.6	1.8	2.3	3.4	14.4	15.7	18.0	7 1.96	0.27	5.18	4 7 6.87	13.82
	O. Arg. S. 2930	26	24.2	26.3	27.9	38.8	40.0	41.3	42.8	44.0	55.2	56.6	59.0	9 41.46	0.29	5.18	4 9 46.35	13.52
	* − 27° 3′	27	0.0	2.3	3.6	14.3	15.4	16.7	17.9	19.2	30.2	31.4	33.8	13 16.80	0.26	5.18	4 13 21.72	13.96
	O. Arg. S. 3044	28	40.0	42.2	43.7	54.5	55.6	56.9	58.2	59.5	10.4	11.7	14.0	17 56.97	0.27	5.19	4 18 1.89	13.83
	* − 23° 40′	29	46.3	48.5	49.8	0.2	1.2	2.6	3.8	5.1	15.6	16.7	19.1	25 2.63	0.23	5.19	4 25 7.59	14.38
	* − 30° 50′	30	..	..	..	45.8	47.0	48.3	49.7	50.9	2.2	3.6	5.8	28 54.16	6.07	5.19	4 28 53.28	13.41
	Lacaille 1533	31	..	..	..	30.7	32.0	33.3	34.8	36.0	47.1	48.5	50.9	31 39.16	6.08	5.19	4 31 38.27	13.38
	μ Eridani	32	27.0	28.9	30.2	39.7	40.7	41.9	43.2	44.2	53.9	54.9	57.0	38 41.96	0.07	5.19	4 38 47.08	16.82
	B. A. C. 1482	33	42.3	44.5	45.9	56.7	57.9	59.3	0.5	1.7	12.7	14.0	16.3	40 59.25	0.27	5.19	4 41 4.17	13.74
	Lacaille 1615	34	14.4	16.7	18.1	28.5	29.6	31.0	32.3	33.4	44.1	45.4	47.7	45 31.02	0.25	5.19	4 45 35.96	14.12
	Weisse 1028	35	..	..	..	..	..	..	3.2	5.7	7.0	8.2	9.6	48 6.74	34.00	5.19	4 47 37.93	18.24
	* + 5° 55′	36	35.7	37.9	39.2	48.6	49.5	50.7	51.8	52.9	2.7	3.8	5.9	54 50.79	0.00	5.19	4 54 55.98	17.96
	ε Leporis	37	25.6	27.7	29.0	39.3	40.4	41.6	42.9	44.1	54.6	55.8	58.0	59 41.73	0.22	5.19	4 59 46.70	14.51
	Fortuna	†38	..	..	..	..	..	7.9	9.1	10.3	20.6	21.6	24.0	4 15.58	7.57	5.19	5 4 13.20	.
	O. Arg. S. 3830	39	32.3	34.5	35.9	46.6	47.7	49.1	50.4	51.6	2.6	3.7	6.1	11 49.14	0.27	5.20	5 11 54.07	13.84
	Weisse 478	†40	29.1	31.1	32.7	58.1	59.3	1.3	17.4	20.1	21.5	22.8	24.2	18 1.60	− 16.29	5.20	5 17 50.51	20.06
	* + 5° 6′	41	2.1	4.3	5.5	15.8	16.9	18.1	19.4	20.4	30.7	32.1	34.5	27 18.16	0.00	5.20	5 27 23.36	17.94
	* + 5° 5′	42	59.7	1.8	3.1	13.4	14.5	15.8	17.0	18.1	28.5	29.7	31.9	28 15.77	0.00	5.20	5 28 20.97	17.94
	* + 5° 3′	43	15.4	17.6	19.4	29.0	30.2	31.5	32.8	33.9	44.3	45.5	47.7	29 31.57	0.00	5.20	5 29 36.77	17.94
	ε Bootis	44	42.7	45.0	46.4	56.9	58.1	59.5	0.9	2.1	12.9	14.2	16.5	38 59.56	+ 0.18	5.30	14 39 5.04	12.65
	α Libræ	45	4.1	6.2	7.6	17.3	18.3	19.7	20.9	22.0	31.9	33.2	35.3	43 19.68	− 0.16	5.30	14 43 24.82	− 16.58
	β Ursæ Minoris	46	0.5	7.9	12.5	48.3	52.1	56.7	1.2	5.3	41.8	46.2	53.9	50 56.95	+ 1.39	5.30	....	+ 5.69
	α Ophiuchi	47	18.5	20.7	21.9	31.8	32.8	34.0	35.2	36.3	46.1	47.3	49.4	28 34.00	+ 0.05	5.33	17 28 39.38	− 13.15
30	Sun I	†48	9.8	12.0	13.5	23.7	24.9	26.2	27.9	28.6	39.3	40.5	42.4	39 26.22	− 0.22	5.34	18 39 31.34	+ 71.06
	ζ Cygni	49	48.3	50.5	52.0	2.9	4.0	5.5	6.8	8.0	19.1	20.6	22.8	7 5.50	+ 0.19	5.37	21 7 11.06	− 12.28
	Venus I	50	52.0	54.0	55.4	5.3	6.3	7.7	8.9	9.9	20.0	21.2	23.3	30 7.64	− 0.17	5.37	21 30 12.84	+ 10.54
	ε Pegasi	51	12.5	14.6	15.8	25.4	26.5	27.7	28.9	29.9	39.6	40.8	42.9	37 27.69	+ 0.03	+ 5.38	21 37 33.10	− 14.48

CORRECTIONS, &c.

Date.	Error of clock.	Hourly rate.	c.
h.	s.	s.	s.
Dec. 28, 20.6	+ 3.36	+ 0.057	− 0.040
29, 12.9	+ 5.28	+ 0.011	− 0.040

4. Faint.
17. Observed with eye and ear.
38. Very faint.
40. Through clouds.
48. Faint; through clouds.
December 24. Adjusted a new weight to clock one-half of a pound heavier than the last.
24. At 1h. 15m. the galvanic circuit was broken by a displacement of the wires.

r.
27, 22h. Image east 0.50. Clamp east.
Image east 0.40. Clamp west.

s.
28–29, n. = + 0.42.
29–30, + 0.42.

OBSERVATIONS

WITH

THE MURAL CIRCLE,

1864.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. Jan. 2	1	Sun N. L.	. .	4	I-IV.	61 34 56.3	72.0	66.0	71.2	66.1	53.1	64.12	35.355	.376	30.320
	2	Sun S. L.	. .	4	VI-IX.	62 4 55.2	70.3	64.0	70.5	65.0	52.0	62.83	30.310	.358	. .
	3	α Ceti	. .	5	III-VII.	35 19 55.0	67.0	63.1	64.8	64.1	50.2	60.70	30.609	.611	30.384
	4	Anon. 3h. 0m. 40s.	. .	2	IV & VI.	37 59 55.0	67.6	63.2	65.4	65.6	51.6	61.40	29.897	.911	. .
	5	Nadir 4h. 38m.	. .	3	. .	179 59 55.2	68.5	63.1	66.2	62.1	49.3	60.73d	29.921	.935	. .
	6	Uranus	. .	5	III-VII.	15 29 55.0	68.0	62.3	64.8	62.3	49.0	60.23	27.654	.652	30.400
5	7	Vesta	. .	5	III-VII.	117 44 54.5	66.1	56.9	59.7	63.0	55.1	58.88	31.421	.436	30.110
	8	17 Tauri	. .	5	III-VII.	105 14 53.8	67.9	62.0	62.7	66.8	54.6	61.30	35.081	.102	. .
	9	23 Tauri	. .	3	IV-VI.	“ “ “	“	“	“	“	“	“	16.547	.550	. .
	10	η Tauri	5	3	IV-VI.	“ “ “	“	“	“	“	“	“	34.940	.955	. .
	11	27 Tauri	6	3	II-IV.	“ “ “	“	“	“	“	“	“	29.507	.489	. .
	12	28 Tauri	7	4	VI-IX.	“ “ “	“	“	“	“	“	“	39.122	.144	. .
	13	B. A. C. 1195	8	1	V.	“ “ “	“	“	“	“	“	“	19.505	.513	30.134
	14	γ^1 Eridani	. .	5	III-VII.	142 49 53.4	66.1	60.7	59.8	64.3	52.0	59.38	37.028	.052	. .
	15	α Tauri, (Ref.)	. .	3	I, III, IV.	247 19 55.2	65.8	62.0	65.0	64.0	55.1	61.18	28.441	.446	30.154
	16	α Tauri	. .	2	VIII, IX.	112 39 54.9	67.4	61.5	60.7	64.9	54.1	60.58	31.332	.367	. .
	17	Nadir 4h. 43m.	. .	3	. .	269 59 54.2	65.8	59.7	61.9	62.7	53.7	59.67d	29.880	.892	. .
	18	α Aurigæ	. .	5	III-VII.	83 4 53.5	66.9	62.0	62.3	64.0	53.3	60.33	34.871	.875	30.164
	19	β Tauri	. .	5	III-VII.	100 24 54.9	66.7	61.7	62.0	64.0	53.6	60.48	31.563	.563	. .
	20	Uranus	. .	5	III-VII.	105 29 55.0	69.0	63.2	63.8	67.1	55.6	62.28	26.906	.917	30.166
8	21	Sun N. L.	. .	4	I-IV.	150 49 57.8	65.0	61.5	60.6	66.6	53.0	60.75	25.688	.690	. .
	22	Sun S. L.	. .	4	VI-IX.	151 24 58.3	66.1	61.8	62.2	66.9	53.5	61.47	30.301	.346	30.015
	23	Mercury	. .	5	I-IX.	148 14 56.9	63.6	59.9	57.6	64.1	50.9	58.83	27.469	.489	29.998
	24	Nadir 1h. 55m.	. .	4	. .	269 59 57.8	64.9	60.4	60.3	64.2	52.2	59.93d	29.785	.801	. .
	25	α Ceti	. .	2	III & V.	125 19 58.2	67.4	62.3	61.8	66.3	52.8	61.47	30.476	.483	. .
	26	Vesta	. .	1	V.	117 29 58.2	67.3	61.1	61.6	64.5	52.4	60.85	26.348	.371	30.012
	27	α Persei	. .	5	III-VII.	79 29 57.8	68.2	64.3	63.1	67.7	55.8	62.82	27.623	.615	. .
	28	γ Ursæ Minoris, S. P.	. .	3	5, V, 1.	21 14 57.6	65.7	61.7	63.2	65.6	53.5	61.22	29.730	.733	30.018
	29	δ Persei	. .	5	III-VII.	81 34 56.5	65.8	60.4	60.6	63.7	52.6	59.93	34.259	.278	. .
	30	B. A. C. 1211	. .	4	III, IV, V, VII	48 34 57.0	65.6	61.0	62.7	66.0	53.8	61.02	29.191	.173	30.016
	31	A^1 Tauri	. .	5	I-IX alt.	107 9 57.6	67.9	62.2	60.4	64.6	51.5	60.70	28.208	.225	. .
	32	γ Tauri	. .	3	I-V alt.	113 39 56.9	67.2	61.3	61.9	64.4	52.2	60.65	38.647	.642	. .
9	33	Sun S. L.	. .	4	I-IV.	151 19 57.0	69.3	62.8	64.0	66.3	51.0	61.73	36.435	.451	30.148
	34	Sun N. L.	. .	4	VI-IX.	150 49 56.0	69.0	62.5	62.3	66.3	50.2	61.05	41.389	.427	. .
	35	Nadir 20h. 51m. 52s.	. .	3	. .	269 59 56.1	65.6	58.7	60.2	64.1	50.5	59.20	29.729	.745	. .
	36	Weisse III, 20	7	4	I-IV.	117 29 56.7	67.1	58.1	61.0	63.3	51.9	59.68	26.356	.358	30.160
	37	Vesta	8	2	VIII & IX.	“ “ “	“	“	“	“	“	“	34.925	.949	. .
	38	Anon. 3h. 30m. 2s.	8	1	V.	147 54 57.8	67.0	61.8	62.6	63.8	51.9	60.82	35.320	.345	. .
	39	17 Tauri	6	1	V.	105 14 57.8	70.6	64.0	65.2	68.0	54.0	63.27	35.011	.031	. .
	40	23 Tauri	. .	1	V.	“ “ “	“	“	“	“	“	“	16.464	.476	. .
	41	η Tauri	. .	1	V.	“ “ “	“	“	“	“	“	“	34.899	.913	. .
	42	27 Tauri	. .	1	V.	“ “ “	“	“	“	“	“	“	29.458	.470	. .
	43	28 Tauri	. .	1	IX.	“ “ “	“	“	“	“	“	“	39.065	.092	30.150
	44	Hebe	9	1	V.	126 54 58.3	68.0	61.3	62.3	65.4	51.5	61.13	38.402	.420	30.144
	45	Nadir 4h. 41m.	. .	3	. .	269 59 58.2	67.9	61.6	64.0	65.3	53.1	61.68d	29.822	.837	. .
	46	Uranus	. .	5	III-VII.	105 34 58.0	72.0	64.0	65.5	68.1	53.8	63.57	35.454	.464	30.156
10	47	Venus S. L.	. .	3	II, V & VIII.	147 44 56.8	64.2	60.6	59.3	61.8	51.2	58.98	33.808	.822	30.033
	48	Venus N. C.	. .	2	IV & VI.	“ “ “	“	“	“	“	“	“	34.430	.446	. .
11	49	Sun N. L.	. .	4	I-IV.	150 24 57.3	67.4	62.2	63.2	65.7	52.6	61.40	27.562	.567	. .
	50	Sun S. L.	. .	4	VI-IX.	150 59 56.6	66.3	60.7	61.8	64.8	51.7	60.33	32.166	.211	29.973
	51	Mercury	. .	1	V.	146 54 57.6	65.3	59.3	60.0	64.8	54.9	60.32	30.878	.891	29.951
	52	σ Ceti	4.8	1	V.	144 39 57.8	64.9	59.5	59.5	65.1	53.4	60.03	24.231	.258	29.926
	53	Nadir 2h. 35m.	. .	3	. .	269 59 57.4	62.7	58.4	58.8	62.8	52.5	58.77	29.759	.776	. .
	54	O. Arg. S. 1930	7.7	5	I-IX alt.	145 14 59.6	67.1	61.7	60.4	67.1	54.8	61.78	28.363	.392	29.924
	55	Melpomene	. .	1	V.	126 29 59.2	66.8	61.1	60.3	66.2	53.6	61.20	35.264	.291	. .
	56	B. A. C. 1054	6	5	III-VII.	154 54 57.8	65.5	61.2	60.6	65.5	54.1	60.78	27.467	.482	29.928
	57	Lacaille 1121	8	5	I-IX alt.	157 14 56.9	64.5	60.6	60.6	65.2	52.8	60.10	29.813	.829	. .
	58	Anon. 3h. 30m. 22s.	7.5	1	V.	147 54 59.6	66.6	63.6	61.9	66.2	54.5	62.07	35.253	.280	. .
	59	Lacaille 1231	6.2	1	V.	155 39 58.1	65.2	61.1	60.6	65.9	53.3	60.70	36.494	.503	29.938
	60	Lacaille 1284	. .	5	III-VII.	155 9 57.6	65.4	61.0	60.7	65.9	52.6	60.53	27.290	.320	. .
	61	Lacaille 1329	. .	5	I-IX alt.	“ “ “	“	“	“	“	“	“	39.209	.248	29.936
	62	B. A. C. 1327	. .	5	III-VII.	168 4 58.0	64.0	61.4	62.5	65.0	52.5	60.57	34.821	.836	. .
	63	Anon. 4h. 17m. 43s.	7.8	5	I-IX alt.	154 34 58.5	66.0	61.7	61.1	66.4	53.5	61.20	31.969	.999	. .
	64	Hebe	9	3	II, V, & IX.	126 29 57.4	65.4	59.5	59.8	64.5	52.3	59.82	34.886	.900	29.939
	65	ε Ursæ Minoris, S. P.	. .	5	5-1.	31 9 57.9	66.1	62.2	63.2	65.2	54.4	61.50	28.848	.860	29.942

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	19.0	16.5	29.912	− 2 51.3	+ 1 48.5	61 34 1.3	− 22 56 41.4		Ha.	
2	. .	. .	. .	13.9	1 51.1	62 6 40.0				Sun's limb totally undefined and very tremulous.
3	21.5	15.1	. .	− 21.9	45.0	35 20 23.8	+ 3 33 15.4	− 57.7		
4	. .	. .	. .	0.0	49.6	38 0 51.0	0 52 48.2	55.4		Observed for Melpomene.
5										
6	21.0	14.0	. .	+ 1 10.8	17.6	15 31 28.6	23 22 10.6			A very bad night. Stars exceedingly blurred and unsteady.
7	29.5	25.1	29.882	− 48.7	32.4	117 44 42.5	11 8 56.7			
8	. .	. .	. .	− 2 43.5	16.8	105 12 34.5	23 41 4.7	50.2		January 4. The telescope moved around the circle till the zenith-reading was 90°. The focus was then adjusted by lengthening the space between the object-glass and the eye-piece by 0.031 inch.
9	. .	. .	. .	+ 6 57.7	17.0	105 22 16.0	23 31 23.2	49.6		
10	. .	. .	. .	− 2 38.9	16.8	105 12 39.1	23 41 0.1	49.2		
11	. .	. .	. .	+ 12.3	16.9	105 15 30.5	23 38 8.7	48.6		
12	. .	. .	. .	− 4 50.2	16.8	105 10 27.8	23 43 11.4	48.7		
13	30.0	23.6	. .	+ 5 24.9	17.0	105 20 43.2	+ 23 32 56.1	48.1		
14	. .	. .	. .	− 3 44.6	+ 1 21.3	142 47 36.0	− 13 53 56.7	35.4		
15	29.5	23.0	. .	+ 45.0	− 25.9	247 20 20.3	+ 16 13 59.5	29.8		Image exceedingly blurred.
16	. .	. .	. .	− 46.5	+ 25.9	112 39 40.0	16 13 59.3	29.8		
17										
18	29.0	22.0	. .	− 2 36.5	− 7.6	83 2 16.2	45 51 53.0	19.5		January 6. Examined level and collimation, and found the errors very small. Changed them somewhat; probably over-correcting collimation. Mic. A taken out and cleaned.
19	. .	. .	. .	− 52.7	+ 11.4	100 24 19.2	28 29 20.1	12.3		
20	29.0	21.9	. .	+ 1 32.9	17.1	105 31 52.3	+ 23 21 46.9			
21	. .	. .	29.803	+ 2 8.9	1 42.9	150 53 52.5	− 22 16 31.9		N.	Both limbs very unsteady.
22	30.5	22.1	. .	− 17.0	1 45.3	151 26 29.8				
23	30.2	23.7	. .	+ 1 12.5	1 32.0	148 17 42.3	− 19 24 4.1			Good observation.
24										
25	. .	. .	. .	− 21.3	+ 43.8	125 20 23.9	+ 3 33 15.3	57.1		Steady. Cloudy.
26	23.5	22.0	. .	+ 1 47.5	. .	117 32 20.6	11 21 18.6			
27	. .	. .	. .	1 8.5	− 11.4	79 30 59.9	49 22 39.3	− 64.3		
28	23.3	21.7	. .	+ 2.2	2 38.0	21 12 25.4	72 18 46.2	+ 67.9		
29	. .	. .	. .	− 2 20.2	9.2	81 32 30.5	47 21 8.7	− 57.4		
30	. .	21.4	. .	+ 19.7	− 54.6	48 34 26.1	80 19 13.1	57.4		Uncertain. Exceedingly faint.
31	. .	. .	. .	+ 49.4	+ 19.2	107 10 9.3	21 42 30.0	42.6		
32	. .	. .	. .	− 4 37.0	27.1	113 35 50.7	+ 15 17 48.5	35.4		Clouds.
33	20.0	19.8	29.777	3 29.1	1 45.8	151 18 18.4	− 22 8 19.7		Ha.	
34	. .	. .	. .	− 6 5.0	1 43.4	150 45 39.4				
35										
36	21.5	15.5	. .	+ 1 47.1	32.8	117 32 19.6	+ 11 21 19.6	57.4		
37	. .	. .	. .	− 2 42.0	32.7	117 27 50.3	+ 11 25 48.9			
38	. .	. .	. .	2 54.5	1 39.9	147 53 46.2	− 19 0 7.0	40.4		
39	. .	. .	. .	− 2 44.6	17.1	105 12 35.7	+ 23 41 3.5	50.3		
40	. .	. .	. .	+ 6 56.8	17.3	105 22 17.3	23 31 21.9	49.7		
41	. .	. .	. .	− 2 40.9	17.1	105 12 39.5	23 40 59.8	49.3		
42	. .	. .	. .	+ 9.6	17.2	105 15 30.1	23 38 9.2	48.8		
43	21.0	16.0	. .	− 4 51.9	17.1	105 10 28.5	23 43 10.8	48.8		
44	20.5	14.1	. .	4 30.8	47.3	126 51 17.6	2 2 21.6			Exceedingly faint. Bisection uncertain.
45										
46	20.0	13.5	. .	2 58.2	17.5	105 32 22.8	+ 23 21 16.4			
47	24.5	16.1	29.806	2 5.5	1 31.0	147 44 24.4	− 18 50 35.3		N.	
48	. .	. .	. .	− 2 25.1	1 31.0	147 44 4.9				
49	. .	. .	. .	+ 1 10.0	1 39.3	150 27 50.9	21 50 29.5			
50	27.5	29.1	. .	− 1 15.4	1 41.7	151 0 26.6				
51	30.5	32.3	. .	− 34.0	1 24.8	146 55 51.1	18 2 11.9			
52	30.4	25.3	. .	+ 2 53.8	1 26.3	144 44 20.2	15 50 40.9	58.3		
53										
54	29.5	23.5	. .	+ 44.3	1 28.4	145 17 14.5	− 16 23 35.3	51.8		
55	. .	. .	. .	− 2 51.8	45.3	126 27 54.6	+ 2 25 44.6			Uncertain by 2″ or 3″. Very faint.
56	29.7	23.8	. .	+ 1 12.8	2 10.6	154 58 24.2	− 26 4 45.0	42.4		
57	. .	. .	. .	− 0.7	2 25.6	157 17 25.0	28 23 45.8	39.4		
58	. .	. .	. .	2 51.5	1 37.6	147 53 48.1	19 0 8.9	40.1		
59	28.3	23.4	. .	− 3 29.8	2 14.8	155 38 45.6	26 45 6.4	34.7		
60	. .	. .	. .	+ 1 17.9	2 12.4	155 13 30.8	26 19 51.6	32.4		
61	28.0	22.5	. .	− 4 55.8	2 11.9	155 7 16.6	26 13 37.3	30.0		
62	. .	. .	. .	2 37.6	4 44.8	168 7 7.7	39 13 28.5	23.2		
63	. .	. .	. .	1 8.7	2 9.3	154 36 1.8	− 25 42 22.6	− 23.8		
64	27.0	21.0	. .	− 2 39.6	+ 45.6	126 28 5.8	+ 2 25 33.4			
65	26.0	20.5	. .	+ 29.6	− 1 41.9	31 8 49.2	+ 82 15 9.9	+ 28.3		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
Jan. 11	1	β Tauri	. .	4	I–IV.	100 24 57.6	65.4	61.2	61.2	63.9	53.6	60.48	31.448	.432	. .
	2	β Tauri, (Ref.)	. .	1	IX.	259 34 57.2	63.6	60.6	61.5	64.0	53.4	60.05	28.080	.154	. .
	3	Uranus	. .	5	I–IX alt.	105 29 57.1	68.0	62.4	62.6	66.6	54.8	61.92	25.326	.341	. .
	4	Nadir 5h. 40m.	. .	3	. .	269 59 56.2	64.0	59.2	60.5	62.5	51.6	59.00	29.748	.765	. .
	5	Venus S. L.	. .	2	VI & VIII.	147 54 56.8	64.9	59.3	59.7	61.6	51.0	58.88	27.635	.665	29.972
	6	Venus N. L.	. .	2	VII & IX.	“ “ “	“	“	“	“	“	“	28.200	.268	. .
12	7	Sun N. L.	. .	4	I–IV.	150 19 57.0	66.8	61.9	61.8	65.4	51.9	60.80	36.160	.189	. .
	8	Sun S. L.	. .	4	VI–IX.	150 49 56.9	66.6	62.0	61.1	66.0	51.7	60.72	31.295	.338	29.932
	9	Vesta	. .	1	III.	117 14 56.6	65.2	57.0	58.2	62.9	51.9	58.63	32.303	.313	29.874
	10	Nadir 3h. 22m.	. .	5	. .	269 59 56.4	63.7	58.2	59.0	63.0	52.9	58.87	29.774	.789	. .
	11	η Tauri	6	4	I–IV.	105 14 56.5	66.9	60.2	60.6	65.5	54.0	60.62	34.875	.860	. .
	12	24 Tauri	9	4	VI–IX.	“ “ “	“	“	“	“	“	“	36.106	.136	. .
	13	27 Tauri	7	3	III–V.	“ “ “	“	“	“	“	“	“	29.430	.435	. .
	14	28 Tauri	7.5	4	VI–IX.	“ “ “	“	“	“	“	“	“	39.012	.039	29.864
	15	α Tauri, (Ref.)	. .	2	III & IV.	247 19 57.0	64.0	60.2	62.0	64.4	54.4	60.33	28.432	.440	29.838
	16	α Tauri	. .	2	VIII & IX.	112 39 57.5	68.0	60.9	61.6	66.0	54.6	61.43	31.230	.267	. .
	17	Uranus	. .	5	III–VII.	105 34 57.8	81.1	65.2	72.0	76.9	58.8	68.63	34.974	.989	29.824
	18	Nadir 5h. 35m.	. .	3	III–V.	269 59 55.8	75.8	61.2	67.7	72.3	54.2	64.50	29.995	.010	. .
14	19	Sun S. L.	. .	4	I–IV.	150 29 54.8	54.2	55.8	55.3	56.3	51.2	54.60	31.504	.514	29.934
	20	Sun N. L.	. .	4	VI–IX.	149 59 54.5	58.3	54.1	54.6	58.0	50.0	54.92	36.329	.370	. .
	21	Nadir	. .	3	. .	269 59 60.0	64.8	60.0	57.8	65.7	56.0	60.72	29.749	.765	. .
15	22	Moon S. L.	. .	3	I, V, & IX.	117 24 60.5	64.1	61.5	56.5	60.0	59.7	60.38	27.765	.771	29.862
	23	Nadir 1h. 50m.	. .	3	. .	269 59 60.6	62.9	60.5	58.3	61.9	60.1	60.72	29.820	.835	. .
	24	Venus S. L.	. .	5	I–IX alt.	148 44 60.4	67.0	63.0	62.5	60.0	55.5	61.40	30.196	.232	30.208
	25	Venus N. L.	. .	4	II–VIII alt.	“ “ “	“	“	“	“	“	“	30.796	.809	. .
16	26	Sun N. L.	. .	3	II–IV.	149 34 59.9	65.8	62.8	62.8	60.5	57.1	61.48	30.945	.963	30.232
	27	Sun S. L.	. .	4	VI–IX.	150 4 60.0	66.1	62.9	61.4	60.9	56.7	61.33	25.963	.997	. .
	28	Lalande 3979	6	1	V.	147 14 59.7	64.7	61.5	59.2	60.0	58.5	60.60	24.755	.759	30.320
	29	O. Arg. S. 1522	7	5	III–VII.	147 49 57.9	62.1	60.8	57.6	58.8	56.3	58.92	29.006	.029	. .
	30	Moon S. L.	. .	5	III–VII.	113 39 58.6	64.0	60.6	58.9	61.0	57.1	60.03	26.996	.014	. .
	31	Weisse II, 615	9	5	III–VII.	116 9 60.8	66.0	61.5	59.0	60.7	59.8	61.30	28.924	.937	30.340
	32	Weisse II, 702	9	1	V.	116 29 60.9	65.6	61.8	60.0	60.9	60.0	61.53	39.290	.316	. .
	33	Weisse II, 841	9	1	V.	115 34 61.0	66.8	62.6	60.3	62.9	61.9	62.58	36.956	.973	30.348
	34	17 Tauri	6	5	III–VII.	105 14 61.0	67.8	64.3	62.8	64.1	61.8	63.63	35.058	.078	. .
	35	7 Pleiadum	9	1	V.	“ “ “	“	“	“	“	“	“	26.800	.807	. .
	36	23 Tauri	7	1	V.	“ “ “	“	“	“	“	“	“	16.498	.506	. .
	37	η Tauri	. .	3	IV–VI.	“ “ “	“	“	“	“	“	“	34.913	.927	. .
	38	24 Tauri	8	1	IX.	“ “ “	“	“	“	“	“	“	36.014	.131	. .
	39	27 Tauri	. .	1	V.	“ “ “	“	“	“	“	“	“	29.461	.474	. .
	40	28 Tauri	. .	1	VII.	“ “ “	“	“	“	“	“	“	39.059	.089	. .
	41	B. A. C. 1195	8	1	V.	“ “ “	“	“	“	“	“	“	19.448	.461	30.356
	42	Nadir 3h. 55m.	. .	3	. .	269 59 61.0	65.1	61.6	61.9	61.5	60.5	61.93	29.856	.871	. .
	43	Hebe	9	1	V.	125 34 61.0	68.8	63.9	62.5	63.4	59.8	63.23	42.836	.846	30.354
	44	α Aurigæ	. .	5	III–VII.	83 4 61.8	69.0	66.0	65.5	65.2	61.2	64.78	34.977	.989	. .
	45	Uranus	. .	5	III–VII.	105 34 60.0	69.9	64.5	64.0	64.7	60.8	63.98	33.882	.892	30.348
19	46	Venus, centre	. .	5	I–IX alt.	149 24 58.5	62.7	60.8	59.8	57.9	54.7	59.07	28.124	.159	30.079
20	47	Nadir 1h. 25m.	. .	3	. .	269 59 60.2	63.4	61.2	59.4	60.9	58.4	60.58	29.813	.828	. .
	48	• Piscium	. .	5	I–IX alt.	120 24 60.5	64.9	61.9	59.3	61.0	58.1	60.95	30.433	.444	30.148
	49	O. Arg. S. 1146	8.5	2	IV & VI.	155 24 61.0	64.7	63.8	60.8	61.9	58.6	61.80	36.517	.526	. .
	50	O. Arg. S. 1245	. .	1	V.	155 9 60.2	64.7	62.8	59.5	62.2	58.6	61.33	31.565	.568	. .
	51	α Draconis, S. P.	. .	5	VII–III.	13 59 59.1	64.5	61.9	60.5	59.5	57.2	60.45	32.086	.126	30.145
	52	4 Ursæ Minoris, S. P.	. .	3	5, V, I.	27 4 59.4	65.2	63.4	62.8	61.3	58.5	61.77	27.219	.246	30.150
	53	O. Arg. S. 1551	6	5	I–IX alt.	144 49 59.1	62.6	60.3	56.9	59.8	56.5	59.20	30.562	.573	. .
	54	Anon. 2h. 26m. 25s.	7.3	5	III–VII.	162 4 59.5	63.5	62.7	60.6	59.5	57.9	60.62	33.084	.113	. .
	55	O. Arg. S. 1738	7.5	3	IV–VI.	153 34 59.5	63.4	62.5	59.9	59.2	56.8	60.22	29.700	.703	. .
	56	β Fornacis	4	3	VII–IX.	161 49 61.4	65.4	65.4	62.8	61.4	60.1	62.75	30.711	.752	30.166
	57	Weisse II, 976	. .	1	I.	114 54 60.7	67.1	63.5	61.2	62.5	60.9	62.65	26.169	.159	. .
21	58	Sun S. L.	. .	4	I–IV.	149 4 60.0	62.9	59.7	58.8	58.6	56.5	59.42	29.120	.150	30.340
	59	Sun N. L.	. .	4	VI–IX.	148 34 60.2	63.9	61.6	59.0	59.6	57.0	60.22	34.132	.172	. .
	60	Nadir 21h. 10m.	. .	3	. .	269 59 60.3	64.3	60.8	60.0	61.6	59.5	61.08	29.836	.851	. .
	61	Nadir	. .	4	. .	269 54 59.2	61.9	59.9	57.6	59.3	56.8	59.12*d*	20.184	.204	. .
	62	Nadir	. .	4	. .	269 59 59.4	62.9	60.5	58.7	60.5	57.8	59.97	29.806	.818	. .
	63	Nadir	. .	4	. .	“ “ 59.0	63.6	60.0	58.9	60.5	57.9	59.98	29.806	.817	. .
	64	Nadir	. .	4	. .	270 4 58.8	63.5	60.5	59.5	61.6	58.7	60.44*d*	39.389	.404	. .
	65	Nadir	. .	4	. .	“ “ 58.8	63.8	60.4	59.6	61.4	58.6	60.44*d*	39.391	.406	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.806	− 50.9	+ 11.4	100 24 20.9	+ 28 29 18.3	− 12.4	N.	
2	. .	. .	. .	+ 51.7	− 11.4	259 35 40.3	28 29 19.6	12.4		
3	. .	. .	. .	2 19.9	+ 17.1	105 32 38.9	+ 23 21 0.3			
4										Image unsteady.
5	27.0	16.1	29.825	1 7.7	1 31.8	147 57 38.3	− 19 3 49.6		Ha.	
6	. .	. .	. .	+ 48.8	1 31.7	147 57 19.3				
7	. .	. .	. .	− 3 19.4	1 38.1	150 18 19.5	− 21 40 57.4			Could not get a good Nadir.
8	28.0	31.0	. .	47.4	1 40.4	150 50 53.7				
9	30.5	25.8	. .	1 18.0	31.4	117 14 12.0	+ 11 39 27.2			Clouds intervening.
10										
11	. .	. .	. .	2 37.8	16.6	105 12 39.4	23 40 59.8	49.4		
12	. .	. .	. .	− 3 17.7	16.6	105 11 59.5	23 41 39.7	49.3		
13	. .	. .	. .	+ 12.2	16.7	105 15 29.5	23 38 9.7	48.8		
14	30.0	24.2	. .	− 4 48.7	+ 16.6	105 10 28.5	23 43 10.7	48.8		
15	29.0	22.5	. .	+ 43.4	− 25.6	247 20 18.1	16 13 57.4	29.7		
16	. .	. .	. .	− 45.2	+ 25.6	112 39 41.8	16 13 57.4	29.7		A very bad, cloudy night. Stars quite steady.
17	28.5	23.0	29.866	2 40.5	16.9	105 32 45.0	+ 23 20 54.2			
18										Noticed a great change in the circle reading, and, on examination, found end screw of axis loose; tightened it. Ha.
19	32.5	34.8	29.742	55.5	1 38.1	150 30 37.2	− 21 20 41.0			
20	. .	. .	. .	− 3 27.7	+ 1 35.9	149 58 3.1				January 15. Tightened the screws of Mic. A and adjusted some of the others, so as to make the readings more nearly equal.
21										
22	39.8	41.2	29.810	+ 1 3.9	− 41 31.8	116 44 32.4	+ 12 9 6.8		N.	Good observation.
23										Wires of E slackened by damp.
24	31.5	29.7	. .	− 13.2	+ 1 33.0	148 46 21.2	− 19 52 33.0		Ha.	
25	. .	. .	. .	31.3	1 33.0	148 46 3.1				
26	35.5	35.0	. .	− 36.1	1 35.4	149 36 0.7	20 58 40.3			
27	. .	. .	. .	+ 1 59.5	1 37.6	150 8 38.4				Could not get a Nadir.
28	38.0	30.9	. .	2 38.3	1 35.1	147 19 14.0	18 25 34.8	62.4		
29	. .	. .	. .	24.5	+ 1 37.3	147 52 0.7	− 18 58 21.5	59.1		
30	. .	. .	. .	1 27.6	− 37 38.8	113 3 48.8	+ 15 49 50.4			
31	37.5	29.8	. .	+ 27.3	+ 30.2	116 10 58.8	12 42 40.4	64.8		
32	. .	. .	. .	− 4 57.9	30.5	116 25 34.1	12 28 5.1	63.4		
33	37.0	29.5	. .	3 44.4	29.4	115 31 47.5	13 21 51.7	61.7		
34	. .	. .	. .	− 2 45.1	16.8	105 12 35.3	23 41 3.9	50.1		Tried to observe Melpomene, but could not; too faint.
35	. .	. .	. .	+ 1 34.1	16.8	105 16 54.5	23 36 44.7	49.7		
36	. .	. .	. .	+ 6 56.8	16.9	105 22 17.3	23 31 21.9	49.5		
37	. .	. .	. .	− 2 40.3	16.8	105 12 40.1	23 40 59.1	49.2		
38	. .	. .	. .	− 3 18.1	16.7	105 12 2.2	23 41 37.0	49.2		
39	. .	. .	. .	+ 10.5	16.8	105 15 30.9	23 38 8.3	48.6		
40	. .	. .	. .	− 4 50.7	16.7	105 10 29.6	23 43 9.6	48.6		
41	36.0	28.4	. .	+ 5 24.3	16.9	105 20 44.8	23 32 54.4	48.0		
42										
43	35.5	27.9	. .	− 6 48.5	+ 43.9	125 28 58.6	3 24 40.6			Faint observation; uncertain.
44	. .	. .	. .	2 42.3	− 7.5	83 2 14.9	45 51 24.3	20.9		
45	34.5	26.0	. .	− 2 7.9	+ 17.1	105 33 13.1	+ 23 20 26.1			
46	38.4	33.3	. .	+ 51.7	1 34.6	149 27 25.3	− 20 33 46.1		N.	
47	. .	. .	29.810							
48	40.8	37.5	. .	− 19.9	35.3	120 25 16.3	+ 8 28 22.9	76.0		
49	. .	. .	. .	3 30.4	2 10.3	155 23 41.7	− 26 30 2.5	63.0		Faint.
50	. .	. .	. .	55.1	+ 2 9.0	155 11 15.2	− 26 17 36.0	− 61.3		
51	40.6	37.8	. .	− 1 12.6	− 3 57.0	13 54 50.8	+ 65 1 11.5	+ 92.6		
52	. .	37.6	. .	+ 1 20.3	− 1 56.9	27 4 25.1	+ 78 10 45.8	+ 90.9		
53	. .	. .	. .	− 23.9	+ 1 25.3	144 51 0.6	− 15 57 21.4	− 59.0		Entire number of rev. not observed.
54	. .	. .	. .	− 1 43.5	3 4.3	162 6 21.4	33 12 42.2	52.5		
55	. .	. .	29.816	+ 3.5	2 1.0	153 37 4.7	24 43 25.5	52.8		
56	. .	34.9	. .	− 29.4	3 2.0	161 52 35.3	− 32 58 56.1	48.3		
57	. .	. .	. .	+ 1 54.6	28.2	114 57 25.4	+ 13 56 13.8	− 59.6		
58	41.5	37.5	. .	+ 20.9	1 33.2	149 6 53.5	− 19 56 55.0		Ha.	Limb very much blurred and unsteady.
59	. .	. .	. .	− 2 16.5	+ 1 31.2	148 34 14.9				
60										
61									N.	These Nadirs were observed between 9 and 10 o'clock mean time, in order to determine the value of a revolution of the micrometer screw.
62										
63									Ha.	
64									N.	
65									Ha.	

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
Jan. 21	1	Nadir	. .	3	. .	269 54 60.3	64.7	61.1	60.0	62.1	58.8	61.17	20.256	.281	. .
	2	Nadir	. .	4	. .	" " 60.0	65.1	60.8	60.0	61.8	59.4	61.18	20.267	.285	. .
22	3	Sun N. L.	. .	4	I–IV.	148 19 58.5	61.6	61.2	58.1	57.8	55.3	58.75	31.118	.148	. .
	4	Sun S. L.	. .	4	VI–IX.	148 49 59.3	62.2	58.3	57.0	58.0	54.2	58.17	26.218	.258	30.224
	5	α Draconis, S. P.	. .	3	VI–IV.	13 59 60.7	63.9	62.9	58.5	60.6	58.1	60.78	32.233	.266	30.182
	6	Nadir 2h. 12m.	. .	4	. .	269 59 60.3	61.2	60.7	57.5	60.1	58.9	59.78	29.788	.804	. .
	7	5 Ursæ Minoris, S. P.	. .	3	. .	25 14 60.6	63.1	63.7	60.1	59.8	58.2	60.92	32.797	.911	30.184
	8	Weisse II, 724	8.5	1	V.	115 44 59.2	61.7	59.7	55.9	59.7	59.9	59.35	30.865	.877	. .
	9	β Ursæ Minoris, S. P.		3	VI–IV.	23 39 59.4	62.4	62.4	59.9	61.0	58.7	60.63	33.199	.237	30.188
	10	Vesta	8.5	4	I–VII alt.	116 24 59.5	61.7	59.5	55.6	58.3	58.2	58.80	33.606	.598	.
	11	Lacaille 1124	7.3	1	V.	154 59 60.7	62.8	62.3	58.4	60.4	59.5	60.68	36.828	.837	30.199
	12	B. A. C. 1119	. .	1	IX.	112 49 60.8	63.1	61.8	59.3	60.7	60.5	61.03	34.285	.322	. .
	13	ζ Persei	. .	5	I–IX.	97 24 59.1	64.2	62.8	59.6	60.5	60.1	61.05	30.221	.233	. .
	14	B. A. C. 5406, S. P.	. .	5	VII–III.	17 4 60.0	63.5	64.2	62.0	61.3	58.1	61.52	26.503	.530	30.206
	15	Weisse N. IV. 270	7.0	1	V.	110 49 60.4	63.3	60.1	58.4	59.0	58.3	59.92	34.116	.141	. .
	16	η Ursæ Minoris, S. P.	. .	5	VII–III.	24 59 59.8	64.1	64.1	62.6	60.0	57.5	61.35	30.609	.641	.
	17	Lacaille 1509	. .	1	V.	154 44 62.2	64.9	64.9	60.3	61.9	60.5	62.45	34.447	.460	30.202
	18	Uranus	. .	5	I–IX alt.	105 34 58.7	65.5	62.9	60.5	61.9	59.0	61.42	32.457	.458	. .
	19	Nadir 7h. 35m.	. .	3	. .	269 59 59.6	63.4	61.9	60.0	59.8	57.5	60.37	29.802	.818	. .
	20	Moon N. L.	. .	4	I–IV.	111 59 59.7	65.6	62.5	61.9	59.9	58.8	61.40	27.266	.142	. .
	21	Moon S. L.	. .	4	VI–IX.	112 29 58.4	63.3	61.5	60.0	59.0	56.8	59.83	27.038	.196	30.218
	22	λ Ursæ Minoris, S. P.	. .	3	2–1.	37 49 60.6	65.4	65.3	64.8	61.9	60.4	63.07	31.480	.494	. .
	23	Venus S. L.	. .	5	I–IX alt.	149 49 61.3	68.2	65.1	65.1	62.1	58.2	63.33	26.975	.003	30.260
	24	Venus N. L.	. .	4	II–VIII alt.	" " "	"	"	"	"	"	"	27.492	.507	. .
23	25	Sun S. L.	. .	3	VII–IX.	148 34 61.2	65.0	62.8	61.1	60.2	57.8	61.35	24.133	.187	30.210
	26	O. Arg. S. 5343	8.5	1	V.	152 54 59.0	60.9	60.0	57.1	58.4	58.3	58.95	34.522	.528	30.004
	27	α Canis Majoris	. .	5	III–VII.	145 24 59.8	62.2	59.2	55.3	60.2	58.8	59.25	30.971	.992	. .
	28	Lacaille 2461	8.0	1	IV.	152 49 60.0	62.4	62.5	58.3	60.0	59.6	60.47	27.269	.291	. .
	29	Lacaille 2462	7.0	1	V.	" " "	"	"	"	"	"	"	35.061	.084	. .
	30	Lacaille 2684	7.5	3	IV–VI.	152 19 61.0	64.1	62.4	59.1	61.8	60.7	61.52	25.592	.595	29.986
	31	Lacaille 2792	7.0	5	III–VII.	153 39 61.1	63.7	62.0	59.0	60.0	59.8	60.93	12.735	.741	. .
	32	Anon. 7h. 24m. 26s.	8.0	1	V.	" " "	"	"	"	"	"	"	22.605	.607	. .
	33	α Canis Minoris	. .	4	III–VI.	123 19 60.4	64.2	61.8	57.9	60.0	60.0	60.72	31.849	.860	. .
	34	Lacaille 2929	8.0	3	IV–VI.	153 59 59.0	61.2	60.6	56.0	58.5	56.2	58.58	24.541	.547	29.976
	35	Nadir 8h. 4m.	. .	5	. .	269 59 60.4	62.7	60.7	58.0	60.6	60.4	60.47	29.830	.839	. .
	36	B. A. C. 2811	6.5	5	III–VII.	154 49 59.8	62.6	60.4	57.0	60.0	58.0	59.63	36.294	.324	. .
	37	Moon S. L.	. .	4	I–IV.	115 34 60.0	63.8	60.6	57.3	61.0	61.9	60.77	30.455	.291	. .
	38	Moon N. L.	. .	4	VI–IX.	115 4 60.0	64.5	60.8	57.9	60.8	60.0	60.67	29.758	.928	. .
	39	Lacaille 3509	7.5	4	I–IV.	154 59 59.9	62.1	60.8	57.4	59.9	58.5	59.77	32.099	.120	. .
	40	Lacaille 3511	9.0	4	VI–IX.	" " "	"	"	"	"	"	"	30.342	.393	. .
	41	ι Ursæ Majoris	3.0	5	III–VII.	80 19 59.2	64.3	63.7	59.4	63.0	62.0	61.93	30.488	.488	29.950
24	42	α Ophiuchi	. .	3	III–VII alt.	116 14 58.7	63.6	59.7	55.6	59.8	59.5	59.48	32.680	.680	. .
	43	Venus, centre	. .	3	VII–IX.	150 4 58.7	62.8	61.0	56.9	60.0	57.5	59.48	28.202	.268	29.747
	44	α Lyræ	. .	5	I–IX alt.	90 14 59.2	63.9	61.7	57.1	61.2	61.0	60.68	31.497	.485	. .
25	45	Nadir 2h. 10m.	. .	3	. .	269 59 60.1	55.2	57.2	49.8	57.9	59.9	56.68	29.644	.664	. .
	46	Nadir 2h. 10m.	. .	3	. .	269 59 59.9	57.2	58.2	50.7	56.8	59.4	57.03	"	"	.
	47	5 Ursæ Minoris, S. P.	. .	5	VII–III.	25 14 62.8	62.1	63.0	56.5	61.1	62.0	61.25	33.012	.064	29.804
	48	Weisse II, 746	9.2	3	III–VII alt.	115 59 61.8	60.5	59.3	53.5	59.9	63.1	59.68	34.845	.854	. .
	49	O. Arg. S. 1977	7.5	4	III, IV, V, VII	147 39 61.6	58.2	59.9	52.2	58.6	. .	58.48	35.556	.561	29.798
	50	Lacaille 996	. .	3	III–VII alt.	153 4 61.9	58.4	61.0	53.4	59.0	61.5	59.20	34.786	.796	. .
	51	Vesta	. .	5	III–VII.	116 4 61.2	60.2	58.3	52.5	59.3	52.9	57.40	26.901	.913	. .
	52	γ Ursæ Minoris, S. P.	. .	3	VI–IV.	21 14 61.2	59.9	61.1	56.2	61.5	61.8	60.28	30.094	.129	29.779
	53	B. A. C. 1119	6.8	5	I–IX alt.	112 49 61.1	59.3	58.8	53.0	59.4	62.1	58.95	34.101	.119	. .
	54	Weisse N. III, 878	9.0	3	III–VII alt.	112 39 61.2	60.3	58.9	53.1	59.9	62.3	59.28	36.772	.774	. .
	55	B. A. C. 1206	6.0	1	. .	111 59 61.3	60.1	58.0	3.0	58.7	62.1	58.87	33.395	.423	. .
	56	Weisse N. III, 1015	9.0	1	VIII.	" " "	"	"	"	"	"	"	35.741	.755	. .
	57	Lacaille 1317	. .	1	V.	155 49 64.7	63.9	63.0	56.9	60.7	62.4	61.93	38.175	.202	29.756
	58	Weisse N. IV, 248	. .	3	II–VIII.	110 29 60.4	63.4	59.8	54.3	59.5	61.6	59.83	32.728	.725	29.753
	59	Weisse IV, 554	. .	1	V.	123 39 62.6	64.3	62.3	56.5	61.2	65.9	62.13	37.068	.113	29.749
	60	α Aurigæ	. .	5	I–IX.	82 59 64.0	66.5	66.1	62.3	65.5	68.1	65.42	25.425	.415	29.744
	61	β Tauri	. .	5	I–IX.	100 24 61.7	60.9	57.5	54.0	57.6	60.1	58.63	31.347	.357	29.741
	62	ε Orionis	. .	3	II–VIII.	130 9 57.7	59.4	55.7	52.5	56.0	57.4	56.45	28.794	.802	29.738
	63	α Orionis	. .	3	I–IX.	121 29 60.5	63.0	58.0	56.7	59.7	60.1	59.67	28.948	.963	29.730
	64	ν Orionis	. .	3	I–IX.	114 4 62.8	65.4	62.3	59.5	61.5	63.2	62.45	27.122	.139	29.724
	65	η Geminorum	. .	5	I–IX.	106 19 61.6	65.4	62.1	58.9	62.3	62.6	62.15	28.183	.199	29.721
	66	υ Geminorum	. .	4	I, III, VII, IX	106 19 61.9	65.6	61.8	59.0	61.6	63.0	62.15	32.438	.439	29.718

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1									N.	
2									Ha.	
3	. .	. .	29.816	− 41.7	+ 1 29.5	148 20 46.5	− 19 43 24.6		N.	
4	41.0	40.1	. .	+ 1 51.5	+ 1 31.5	148 53 21.1				
5	43.5	40.0	. .	− 1 16.8	− 3 56.1	13 54 47.8	+ 65 1 8.6	+ 92.8		
6										
7	43.2	39.0	. .	1 37.0	− 2 6.7	25 11 17.2	76 17 38.0	+ 86.9		At 2h. 29m. 52s., 30m. 42s., and 31m. 25s.
8	. .	. .	. .	33.2	+ 28.9	115 44 55.0	13 8 44.2	− 63.0		
9	42.8	38.1	. .	1 47.2	− 2 16.5	23 35 56.9	74 42 17.7	+ 80.4		Very steady.
10	. .	. .	. .	1 58.5	+ 29.9	116 23 30.1	+ 12 30 9.1			
11	41.7	35.6	. .	3 40.0	2 8.6	154 58 29.2	− 26 4 50.0	− 38.0		
12	. .	. .	. .	2 21.2	25.4	112 48 5.2	+ 16 5 34.0	49.2		Cloudy.
13	. .	. .	. .	− 13.1	+ 7.9	97 24 55.8	31 28 43.4	− 49.4		Unsteady and blurred.
14	40.2	34.6	. .	+ 1 43.0	− 3 14.5	17 3 30.0	68 9 50.8	+ 54.3		
15	. .	. .	. .	− 2 15.5	+ 23.0	110 48 7.4	18 5 31.8	− 35.3		
16	. .	. .	. .	25.9	− 2 9.5	24 57 25.9	+ 76 3 46.7	+ 48.3		
17	39.7	33.5	. .	2 25.5	+ 2 7.8	155 44 44.7	− 25 51 5.5	− 18.3		
18	. .	33.3	. .	− 1 22.8	+ 16.8	105 33 55.4	+ 23 19 43.8			Cloudy; blurred.
19										
20	. .	. .	. .	+ 1 23.8	− 19 41.8	111 41 43.4	16 57 9.6			
21	36.2	31.5	. .	+ 1 22.1	20 6.1	112 11 15.8				
22	. .	. .	. .	− 52.6	− 1 18.4	37 47 52.0	+ 88 54 12.8	− 49.1		
23	34.5	32.5	. .	+ 1 28.2	+ 1 37.3	149 53 8.8	− 20 59 21.7		Ha.	
24	. .	. .	. .	1 12.4	+ 1 37.3	149 52 53.0				
25	41.5	43.6	. .	+ 2 56.4	− 14 47.4	148 23 10.3	19 29 31.0			
26	45.0	40.2	. .	− 2 27.7	+ 1 55.6	152 54 26.8	24 0 47.6	+ 24.5		
27	. .	. .	. .	− 36.8	1 26.0	145 25 48.4	16 32 9.2	26.8		
28	. .	. .	. .	+ 1 19.1	1 55.6	152 53 15.1	23 59 35.9	29.1		
29	. .	. .	. .	− 2 45.1	1 55.3	152 49 10.6	23 55 31.4	29.2		
30	44.5	38.5	. .	+ 2 12.2	1 53.5	152 24 7.2	23 30 28.0	37.8		
31	. .	. .	. .	8 55.0	2 0.9	153 50 56.8	24 57 17.6	40.9		
32	. .	. .	. .	+ 3 45.9	2 0.4	153 45 47.2	− 24 52 8.0	42.4		
33	. .	. .	. .	− 1 4.0	39.3	123 19 36.0	+ 5 34 3.2	43.7		
34	44.0	37.3	. .	+ 2 45.1	2 2.2	154 4 45.8	− 25 11 6.6	46.6		This is the imperfect limb. —4.″00 added for defective illumination.
35										
36	. .	. .	. .	− 3 23.9	+ 2 6.2	154 48 41.9	− 25 55 2.7	57.6		
37	. .	. .	. .	14.9	− 22 38.2	115 12 7.6	+ 13 56 15.6			
38	. .	. .	. .	3.5	− 22 17.5	114 42 39.6				
39	. .	. .	. .	1 12.2	+ 2 7.4	155 0 54.9	− 26 7 15.7	63.5		
40	. .	. .	. .	18.1	+ 2 7.5	155 1 49.1	− 26 8 9.9	63.6		
41	43.5	37.0	. .	21.1	− 10.2	80 19 30.6	+ 48 34 8.6	69.2		
42	. .	. .	29.778	− 1 31.0	+ 28.7	116 13 57.2	+ 12 39 42.1	+ 13.9	N.	
43	46.8	45.8	. .	+ 47.3	1 36.8	150 7 23.5	− 21 13 44.3			
44	. .	. .	. .	− 53.5	0.2	90 14 7.4	+ 38 39 31.8	− 9.0		
45										
46									H.*	* Prof. Asaph Hall.
47	58.0	53.1	. .	1 43.0	− 2 1.5	25 11 16.7	76 17 37.5	+ 87.2	N.	
48	. .	. .	. .	2 39.0	+ 28.0	115 57 48.6	+ 12 55 50.6	− 62.5		
49	57.0	51.8	. .	3 1.2	1 30.6	147 38 27.8	− 18 44 48.6	48.7		+0.″50 applied to mean of first 4 microscopes. Whole number rev. assumed.
50	. .	. .	. .	− 2 37.2	1 53.3	153 9 15.3	− 24 15 36.1	− 44.6		Micrometer read by A. Hall. C. R. recorded 153° 9′, and whole rev. not recorded.
51	. .	. .	. .	+ 1 29.8	+ 28.3	116 6 55.5	+ 12 46 43.7			
52	. .	50.0	. .	− 11.0	− 2 27.6	21 12 21.6	72 18 42.4	+ 71.4		
53	. .	. .	. .	2 16.0	+ 24.3	112 48 7.2	16 5 32.0	− 49.2		
54	. .	. .	. .	3 39.2	24.1	112 36 44.1	16 16 55.1	46.5		
55	. .	. .	. .	1 54.2	23.4	111 58 28.0	16 55 11.2	44.8		Hour angle + 1m. 15s. Mic. D recorded 63.″0.
56	. .	. .	. .	3 7.3	24.6	111 57 16.1	+ 16 56 23.1	44.4		
57	52.7	46.1	29.768	4 24.3	2 8.6	155 47 46.2	− 26 54 7.0	28.2	H.*	Faint and uncertain. * Prof. Asaph Hall.
58	52.0	45.8	. .	1 32.7	21.8	110 28 48.9	+ 18 24 50.3	35.7		
59	51.4	45.4	. .	− 3 50.1	+ 38.7	123 36 50.7	5 16 48.5	26.4		
60	50.3	44.8	. .	+ 2 16.4	− 7.1	83 2 14.7	45 51 24.5	22.0		
61	49.5	44.3	. .	− 49.8	+ 10.7	100 24 19.5	+ 28 29 19.7	13.1		
62	49.0	44.0	. .	+ 30.3	49.3	130 11 16.0	− 1 17 36.8	− 1.2		
63	48.1	42.9	. .	25.2	35.9	121 31 0.8	+ 7 22 38.5	+ 4.0		
64	47.8	42.6	. .	1 22.4	28.5	114 6 53.3	14 46 46.0	7.3		
65	47.6	42.4	. .	+ 49.2	17.2	106 21 8.5	22 32 30.7	7.6		
66	47.4	42.3	. .	− 1 23.7	+ 17.2	106 18 55.6	+ 22 34 43.6	+ 11.7		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. Jan. 25	1	γ Geminorum	. .	5	I-IX.	112 24 63.0	65.4	62.4	58.5	61.4	63.2	62.32	34.333	.349	29.718
	2	α Canis Majoris	. .	3	II-VIII.	145 19 62.4	63.7	62.0	56.6	60.1	62.1	61.15	21.392	.416	29.713
	3	ε Canis Majoris	. .	3	II-VIII.	157 39 65.0	65.2	64.7	61.3	61.8	63.7	63.62	32.063	.097	29.710
	4	δ Geminorum	. .	5	I-IX.	106 39 66.0	70.7	68.3	64.4	65.6	68.5	67.25	30.543	.538	29.705
	5	Nadir	. .	3	. .	269 59 59.9	62.2	60.1	57.3	59.0	59.0	59.58	29.746	.764	. .
	6	Nadir	. .	. .	. .	269 59 59.8	60.6	60.2	57.1	58.7	59.2	59.27	. .	. .	. .
	7	Lacaille 3086	. .	3	III-VII.	170 49 59.4	61.6	64.3	59.8	57.9	58.1	60.18	28.507	.523	29.682
	8	Moon S. L.	. .	1	VII.	123 14 58.8	62.2	62.4	58.2	57.6	57.5	59.45	24.411	.601	29.632
	9	Venus S. C.	. .	5	I-IX.	150 14 58.8	60.9	61.1	57.9	57.1	57.9	58.95	34.849	.870	29.684
	10	Venus N. L.	. .	4	II-VIII.	“ “ “	“	“	“	“	“	“	35.394	.419	. .
26	11	Sun N. L.	. .	4	I-IV.	147 24 59.9	57.2	57.8	51.3	55.0	56.8	56.33	35.640	.645	29.764
	12	Sun S. L.	. .	4	VI-IX.	147 54 59.9	58.0	58.0	52.3	56.1	56.5	56.80	30.866	.890	. .
	13	17 Tauri	6.0	1	V.	105 14 59.9	62.2	60.9	56.0	60.2	60.8	60.00	34.899	.913	29.944
	14	1 Pleiadum	9.0	1	V.	“ “ “	“	“	“	“	“	“	26.099	.124	. .
	15	7 Pleiadum	. .	1	V.	“ “ “	“	“	“	“	“	“	26.630	.631	. .
	16	23*d* Pleiadum	6.0	1	V.	“ “ “	“	“	“	“	“	“	16.349	.372	. .
	17	η Tauri	6.0	1	V.	“ “ “	“	“	“	“	“	“	34.790	.796	. .
	18	27 Tauri	7.0	2	I, IX.	“ “ “	“	“	“	“	“	“	29.326	.330	. .
	19	28 Tauri	4.0	1	V.	“ “ “	“	“	“	“	“	“	38.936	.952	. .
	20	B. A. C. 1195	9.0	1	V.	“ “ “	“	“	“	“	“	“	19.263	.290	. .
	21	Weisse N. III, 1262	8.5	1	V.	111 34 59.8	62.4	59.8	56.9	58.6	60.8	59.72	28.612	.614	. .
	22	Weisse N. IV, 65	9.0	1	V.	111 24 59.7	63.0	59.5	56.0	59.0	59.1	59.39	30.980	.999	. .
	23	Weisse N. IV, 376	8.0	1	V.	110 19 61.1	63.8	61.2	57.2	60.9	60.3	60.75	29.389	.408	29.950
	24	Uranus	. .	5	III-VII.	105 34 61.5	66.0	64.1	60.2	63.0	62.5	62.88	31.744	.745	29.960
	25	Nadir 5h. 35m.	. .	3	. .	269 59 60.2	61.0	59.6	57.5	58.1	60.1	59.42*d*	29.767	.783	. .
	26	α Orionis	. .	5	III-VII.	121 29 61.0	63.2	61.6	57.9	59.4	59.0	60.35	28.970	.987	. .
	27	α Canis Majoris	. .	3	IV-VI.	145 24 60.1	62.4	61.4	57.4	59.5	58.2	59.84	31.004	.025	29.980
	28	α Ophiuchi	. .	5	I-IX.	116 14 60.8	66.5	64.3	63.6	58.5	59.5	62.20	32.784	.784	30.002
	29	α Lyræ	. .	5	I-IX.	90 14 59.6	65.5	63.9	62.9	58.7	59.3	61.65	31.515	.502	. .
	30	α Aquilæ	. .	5	I-IX.	120 19 58.9	63.5	61.8	60.5	58.3	56.7	59.95	25.356	.375	30.006
	31	Nadir 20h. 20m.	. .	3	. .	269 59 58.1	58.4	58.1	56.9	54.5	56.2	57.03	29.706	.725	. .
27	32	Sun S. L.	. .	4	I-IV.	147 39 59.0	62.2	62.4	59.3	56.5	56.4	59.30	31.502	.514	. .
	33	Sun N. L.	. .	4	VI-IX.	147 4 58.7	61.5	61.0	57.7	56.6	56.1	58.60	26.713	.727	29.985
	34	α Pegasi	. .	5	I-IX.	114 24 58.5	64.0	61.8	59.1	58.9	59.7	60.33	30.559	.556	29.957
	35	Anon. 3h. 10m. 10s.	9.0	1	V.	114 14 59.2	60.7	58.9	54.3	58.6	60.2	56.98	25.014	.035	29.996
	36	Weisse III, 173	6.7	1	VII.	“ “ “	“	“	“	“	“	“	35.651	.661	. .
	37	Nadir 3h. 40m.	. .	3	. .	269 59 60.0	55.9	57.1	51.0	57.2	58.8	56.67	29.687	.706	. .
	38	B. A. C. 1211, (Ref.)	. .	2	IV, V.	311 24 60.4	57.9	59.6	49.4	57.2	57.0	56.92	30.142	.177	. .
	39	B. A. C. 1211	4.0	3	V-VII.	48 34 61.1	60.6	62.0	56.9	63.0	63.0	61.10	29.405	.404	30.008
	40	B. A. C. 5406, S. P.	. .	5	VII-III.	17 4 61.2	59.8	63.0	56.7	60.1	59.4	60.03	26.808	.835	30.016
	41	η Ursæ Minoris, S. P.	5.0	5	VII-III.	24 59 61.4	60.9	63.4	57.7	59.5	60.0	60.48	30.837	.877	. .
	42	Hebe	9.0	3	III, V, VIII.	123 14 61.1	60.0	60.0	54.5	58.8	60.5	59.15	28.088	.111	30.023
	43	α Camelopardali	4.0	1	V.	62 49 61.9	61.9	62.8	57.9	62.0	64.5	61.83	34.494	.503	. .
	44	β Camelopardali	4.5	4	I-IV.	68 39 61.2	61.7	63.2	57.6	62.9	64.8	61.90	30.768	.715	. .
	45	β Camelopardali, (Ref.)	. .	4	VI-IX.	291 19 61.3	58.9	61.1	51.6	59.9	58.7	58.58	28.911	.984	. .
	46	ε Ursæ Minoris, S. P.	5.0	5	VII-III.	31 9 61.5	61.4	63.4	59.0	62.3	62.0	61.60	29.165	.193	30.028
	47	Uranus	. .	5	I-IX.	105 34 60.3	62.4	62.5	56.0	62.0	62.1	60.89	31.456	.457	. .
	48	α Orionis	. .	4	I-IV.	121 29 60.9	60.1	59.8	54.3	58.3	59.0	58.73	28.898	.893	. .
	49	α Orionis, (Ref.)	. .	4	VI-IX.	238 29 61.4	57.4	62.4	55.1	61.2	63.6	60.18	30.732	.755	30.037
	50	δ Ursæ Min., S.P. (Ref.)	. .	4	5-1.	324 29 62.0	60.7	62.1	53.3	60.5	59.5	59.69	32.022	.041	30.037
	51	δ Ursæ Minoris, S. P.	. .	. .	. .	35 29 62.2	62.6	63.6	59.6	62.1	62.1	62.03	27.546	.632	. .
	52	Nadir 6h. 35m.	. .	3	. .	269 59 61.6	60.3	61.0	54.9	60.9	60.5	59.87	29.773	.790	. .
	53	Venus N. L.	. .	5	I-IX.	150 24 62.0	67.0	65.1	64.9	60.6	59.7	63.22	33.787	.803	30.174
	54	Venus S. C.	. .	4	II-VIII.	“ “ “	“	“	“	“	“	“	33.270	.303	. .
28	55	Sun N. L.	. .	4	I-IV.	146 54 60.3	63.0	59.4	58.3	57.8	59.0	59.63	37.384	.409	30.168
	56	Sun S. L.	. .	4	VI-IX.	147 24 60.8	62.8	60.1	58.2	57.5	57.9	59.55	32.483	.504	. .
	57	Rumker 952	9.0	1	V.	105 14 60.7	64.1	61.5	58.1	62.0	62.9	61.55	36.974	.992	30.140
	58	17*b* Pleiadum	7.0	1	V.	“ “ “	“	“	“	“	“	“	34.892	.906	. .
	59	1 Pleiadum	9.0	1	V.	“ “ “	“	“	“	“	“	“	26.108	.133	. .
	60	7 Pleiadum	9.0	1	VI.	“ “ “	“	“	“	“	“	“	26.659	.666	. .
	61	23*d* Pleiadum	7.0	1	V.	“ “ “	“	“	“	“	“	“	16.308	.334	. .
	62	η Tauri	6.0	1	V.	“ “ “	“	“	“	“	“	“	34.767	.772	. .
	63	27 Tauri	7.0	1	V.	“ “ “	“	“	“	“	“	“	29.342	.344	. .
	64	28 Tauri	7.0	1	V.	“ “ “	“	“	“	“	“	“	38.932	.948	. .
	65	B. A. C. 1195	9.0	1	V.	“ “ “	“	“	“	“	“	“	19.250	.277	. .
	66	Lacaille 1317	7.5	5	III-VII.	155 44 60.0	60.1	58.8	55.0	58.2	59.0	58.52	28.290	.320	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	' "	' "	° ' "	° ' "	"		
1	47.1	41.6	29.768	− 2 23.5	+ 24.2	112 23 3.0	+ 16 30 36.2	+ 19.0	H.	
2	46.7	40.9	. .	+ 4 21.7	1 25.1	145 25 47.9	− 16 32 8.7	27.2		
3	46.2	40.3	. .	− 1 13.0	2 22.2	157 41 12.8	− 28 47 33.6	33.0		
4	45.6	39.4	. .	− 24.1	17.6	106 40 0.7	+ 22 13 38.5	34.8		
5										
6									N.	
7	43.8	38.9	29.778	+ 39.3	+ 5 51.4	170 55 30.8	− 42 1 51.6	+ 51.0		Blurred.
8	44.4	39.0	. .	+ 2 42.2	− 43 35.6	122 34 6.0	+ 6 19 33.2			
9	49.0	55.7	29.802	− 2 38.8	+ 1 32.1	150 13 52.2	− 21 20 4.4		Ha.	
10	. .	. .	. .	2 56.0	1 32.1	150 13 35.0				
11	56.0	57.5	. .	3 3.1	1 21.4	147 23 14.6	− 18 45 51.0			
12	. .	. .	. .	34.1	1 23.2	147 55 45.9				
13	52.0	48.0	. .	− 2 40.1	15.9	105 12 35.8	+ 23 41 3.4	− 50.1		
14	. .	. .	. .	+ 1 55.2	16.0	105 17 11.2	23 36 28.0	49.8		
15	. .	. .	. .	1 39.4	16.0	105 16 55.4	23 36 43.8	49.6		
16	. .	. .	. .	+ 7 0.8	16.1	105 22 16.9	23 31 22.3	49.2		
17	. .	. .	. .	− 2 36.5	15.9	105 12 39.4	23 40 59.8	49.1		
18	. .	. .	. .	+ 14.8	16.0	105 15 30.8	23 38 8.4	48.5		
19	. .	. .	. .	− 4 46.7	15.8	105 10 29.1	23 43 10.1	48.6		
20	. .	. .	. .	+ 5 29.4	16.0	105 20 45.4	23 32 53.8	47.9		
21	. .	. .	. .	+ 37.2	23.2	111 36 0.1	17 17 39.1	40.2		
22	. .	. .	. .	− 37.5	23.0	111 24 44.8	17 28 54.4	38.2		
23	52.0	44.5	. .	+ 12.3	21.8	110 20 34.8	18 33 4.4	− 33.8		Looked for Hebe, but it was too faint to observe.
24	50.0	42.1	. .	− 1 0.9	16.3	105 34 18.3	23 19 20.9			
25										
26	. .	. .	. .	+ 25.5	36.3	121 31 2.1	+ 7 22 37.1	+ 4.0		
27	48.0	38.5	. .	− 38.3	1 26.2	145 25 47.7	− 16 32 8.5	27.3		
28	40.3	37.4	29.820	1 32.9	29.5	116 13 58.8	+ 12 39 40.4	+ 14.3	N.	
29	. .	. .	. .	− 52.7	0.2	90 14 9.1	38 39 30.1	− 8.3		
30	44.5	46.3	. .	+ 2 19.3	34.4	120 22 53.6	+ 8 30 45.6	37.9		
31										
32	. .	. .	. .	− 53.1	1 24.4	147 40 30.6	− 18 30 35.1			
33	46.4	50.0	. .	+ 1 36.9	1 22.6	147 7 58.1				Good observation.
34	51.2	58.5	29.803	− 23.6	26.0	114 25 2.7	+ 14 28 36.5	84.6		
35	55.5	50.8	. .	+ 2 29.4	26.2	114 17 52.5	14 35 46.7	55.4		
36	. .	. .	. .	− 3 3.5	26.1	114 12 19.5	14 41 19.7	55.2		
37										
38	. .	. .	. .	− 11.7	+ 51.2	311 25 36.4	80 19 15.6	61.0		
39	55.0	51.1	. .	+ 12.5	− 51.2	48 34 22.4	80 19 16.8	− 61.0		
40	54.9	51.5	. .	+ 1 33.0	3 6.5	17 3 26.5	68 9 47.2	+ 55.5		Unsteady.
41	. .	. .	. .	− 33.6	− 2 4.2	24 57 22.6	76 3 43.3	+ 49.5		
42	54.6	51.0	. .	+ 53.0	+ 38.1	123 16 30.2	5 37 9.6			
43	. .	. .	. .	− 2 27.3	− 29.9	62 47 4.6	66 6 34.6	− 37.6		Very steady.
44	. .	. .	. .	− 28.6	− 22.8	68 39 10.5	60 14 28.7	− 31.9		
45	. .	. .	. .	+ 25.7	+ 22.8	291 20 47.0	60 14 26.2			Fine observation.
46	54.2	50.5	. .	+ 19.1	− 1 36.0	31 8 44.7	82 15 5.4	+ 33.4		
47	. .	. .	. .	− 51.8	+ 16.2	105 34 25.2	23 19 14.0			The diameter of the planet was 0.70 of the distance between wires, and the outline of the disk was well defined.
48	. .	. .	. .	+ 28.5	+ 35.8	121 31 3.0	7 22 36.2	+ 4.1		
49	53.6	48.8	. .	− 29.8	− 35.8	238 28 54.5	7 22 33.7			
50	53.1	46.1	. .	− 1 10.1	+ 1 22.1	324 30 11.6	86 36 9.1	− 1.3		Omitted wire 2.
51	. .	. .	. .	+ 1 8.0	− 1 22.1	35 29 47.9	86 36 8.6			Found level sensibly correct. Adjusted collimation January 27, 7h.
52										
53	42.5	42.3	29.802	− 2 5.4	+ 1 36.7	150 24 34.5	+ 21 31 3.2		Ha.	
54	. .	. .	. .	1 49.7	1 36.7	150 24 50.2				
55	50.0	57.4	. .	3 58.4	1 20.9	146 52 22.1	− 18 15 0.6			
56	. .	. .	. .	1 24.7	1 22.7	147 24 57.5				
57	55.0	54.8	. .	3 45.3	15.7	105 11 31.9	+ 23 42 7.3	50.1		
58	. .	. .	. .	− 2 39.9	15.8	105 12 37.4	23 41 1.8	50.0		
59	. .	. .	. .	+ 1 55.0	15.8	105 17 12.3	23 36 26.9	49.7		
60	. .	. .	. .	1 38.3	15.8	105 16 55.6	23 36 43.6	49.6		
61	. .	. .	. .	+ 7 2.0	15.9	105 22 19.4	23 31 19.8	49.2		
62	. .	. .	. .	− 2 35.8	15.8	105 12 41.5	23 40 57.7	49.0		
63	. .	. .	. .	+ 14.4	15.8	105 15 31.7	23 38 7.5	48.4		
64	. .	. .	. .	− 4 46.9	15.7	105 10 30.3	23 43 8.9	48.5		
65	. .	. .	. .	+ 5 29.8	15.9	105 20 47.2	+ 23 32 52.0	47.8		
66	. .	. .	. .	+ 46.4	+ 2 8.4	155 47 53.3	− 26 54 14.1	− 27.9		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
						° ″ ″	″	″	″	″	″	″	r.	r.	in.
1864. Jan. 28	1	Anon. 3h. 57m. 54s.	9.0	1	V.	155 44 60.0	60.1	58.8	55.0	58.2	59.0	58.52	33.269	.296	30.13
	2	Nadir 4h. 11m. . .	. .	3	. .	269 59 59.6	56.1	57.1	52.1	56.9	59.8	56.93*d*	29.686	.704	. .
	3	Uranus	. .	5	III–VII.	105 34 59.1	62.7	60.1	56.8	60.8	61.1	60.10	31.229	.253	30.13
	4	Anon. 6h. 1m. 2s. .	8.0	5	III–VII.	152 24 59.5	59.9	59.9	55.8	57.6	58.4	58.52	32.178	.208	30.13
	5	Lacaille 2190 . .	7.5	5	III–VII.	152 39 59.4	60.1	60.0	56.0	57.9	59.0	58.73	26.267	.297	. .
	6	Lacaille 2226 . .	8.0	5	III–VII.	152 24 59.4	60.3	60.1	56.0	58.1	58.3	58.70	26.661	.665	30.12
	7	Venus, centre . .	. .	5	I–IX.	150 24 58.3	64.0	63.9	62.5	57.5	55.2	60.23	24.581	.594	30.12
	8	α Lyræ	. .	5	I–IX.	90 14 58.8	66.1	64.2	61.2	59.5	58.8	61.43	31.437	.431	. .
29	9	Sun S. L. . . .	. .	4	I–IV.	147 4 57.9	61.6	60.1	57.2	57.3	55.9	58.33	24.746	.755	30.26
	10	Nadir 2h. 50m. . .	. .	3	. .	269 59 57.9	54.2	55.8	51.0	55.0	57.8	55.28	29.599	.619	. .
	11	β Ursæ Minoris, S. P.	. .	4	IV–I.	23 39 59.4	58.5	60.5	56.1	58.9	60.0	58.90	33.239	.338	30.0
	12	δ Persei, (Ref.) . .	. .	2	I, IV.	278 24 60.5	57.2	58.2	52.1	57.7	60.1	57.63	25.164	.203	. .
	13	δ Persei	. .	3	VII–IX.	81 34 61.5	60.5	60.4	56.1	59.9	62.6	60.17	34.297	.308	. .
	14	Weisse N. III, 887 .	. .	1	V.	112 19 60.4	59.4	57.5	54.9	58.1	60.9	58.53	28.125	.151	. .
	15	Lacaille 1231 . .	8.0	1	V.	155 34 58.9	57.1	57.8	53.0	55.7	57.4	56.65	26.380	.400	30.08
	16	Lacaille 1329 . .	. .	1	V.	155 4 59.4	58.5	58.8	53.5	57.3	59.5	57.83	29.245	.272	. .
	17	o^1 Eridani	. .	5	I–IX.	136 4 60.0	60.4	59.0	54.0	58.7	60.4	58.75	30.818	.830	. .
	18	δ^1 Tauri, (Ref.) . .	. .	4	I–IV.	248 19 61.0	57.5	61.1	56.6	60.2	63.2	59.93	29.892	.897	. .
	19	δ^1 Tauri	. .	4	VI–IX.	111 39 62.1	61.8	59.9	56.4	59.7	62.9	60.47	29.760	.774	. .
	20	α Tauri	. .	5	I–IX.	112 39 60.7	60.4	58.4	55.1	58.5	61.7	59.13	31.097	.115	. .
	21	β Camelopardali . .	. .	4	I–IV.	68 39 58.0	59.1	59.4	56.5	59.2	62.4	59.10	30.634	.577	. .
	22	β Camelopardali, (Ref.)	. .	3	VI, VIII, IX.	291 19 60.1	58.8	59.5	52.7	58.0	58.1	57.87	28.862	.939	30.06
	23	β Orionis, (Ref.) . .	. .	3	I, II, IV.	222 44 60.5	56.9	60.6	56.0	56.9	61.8	58.78	28.774	.758	. .
	24	β Orionis	. .	2	VIII, IX.	137 14 61.4	61.6	59.9	55.3	59.3	60.2	59.62	30.830	.867	. .
	25	Uranus	. .	5	I–IX.	105 34 60.5	62.9	60.8	57.3	61.4	61.9	60.80	31.094	.130	. .
	26	Nadir 5h. 35m. . .	. .	3	. .	269 59 61.9	60.0	60.3	56.6	59.6	62.2	60.10	29.775	.791	. .
Feb. 3	27	β Ursæ Minoris, S. P.	. .	4	IV–I.	23 39 61.8	66.5	65.5	67.6	60.7	61.6	63.95	33.231	.330	29.80
	28	O. Arg. S. 2189 . .	5.0	2	VII, IX.	147 54 60.4	62.2	62.7	60.4	56.1	57.1	59.82	28.716	.749	. .
	29	ι Draconis, S. P. . .	. .	5	VII–III.	8 24 59.6	64.0	63.5	64.1	58.5	56.2	60.98	27.226	.266	29.81
	30	Lacaille 1124 . .	. .	1	IX.	154 54 60.0	62.9	62.3	60.4	57.9	57.8	60.22	27.111	.185	. .
	31	16*g* Pleiadum	. .	3	III–VII.	105 4 60.4	66.2	64.5	63.8	60.4	60.3	62.60	35.998	.014	. .
	32	4 Pleiadum	. .	1	V.	" " "	"	"	"	"	"	"	41.565	.569	. .
	33	20*c* Pleiadum	. .	1	V.	" " "	"	"	"	"	"	"	45.315	.340	. .
	34	B. A. C. 1165 . .	7.7	1	V.	" " "	"	"	"	"	"	"	36.712	.714	. .
	35	B. A. C. 1171 . .	8.0	1	V.	" " "	"	"	"	"	"	"	43.588	.590	. .
	36	33 Pleiadum	8.5	1	V.	" " "	"	"	"	"	"	"	32.641	.642	. .
	37	O. Arg. S. 2663 . .	. .	1	V.	155 29 60.4	63.2	63.6	62.3	57.1	56.9	60.58	32.685	.687	. .
	38	Lacaille 1329 . .	7.0	1	V.	155 4 59.7	64.1	62.9	61.9	58.4	58.4	60.90	29.427	.442	. .
	39	Nadir 4h. 15m. . .	. .	3	. .	269 59 59.7	63.0	62.3	62.2	58.0	58.0	60.53	29.787	.803	. .
	40	Lacaille 1553 . .	7.8	1	V.	167 54 59.5	63.8	64.8	64.5	57.9	56.1	61.10	32.224	.251	. .
	41	Lacaille 1568 . .	8.2	1	V.	" " "	"	"	"	"	"	"	27.274	.301	. .
	42	Lacaille 1611 . .	8.0	3	IV–VI.	164 9 59.5	63.3	62.8	63.1	56.9	57.1	60.45	29.692	.696	. .
	43	Lacaille 1617 . .	. .	1	V.	" " "	"	"	"	"	"	"	28.250	.277	29.84
	44	Anon. 4h. 54m. 24s.	7.3	1	V.	154 9 59.5	63.9	62.9	61.9	55.9	56.4	60.08	34.581	.584	. .
	45	ε Ursæ Minoris, S. P.	. .	3	5–1.	31 9 60.1	66.1	66.0	67.5	59.7	58.5	62.98	29.062	.084	. .
	46	β Orionis	. .	5	I–IX.	137 14 59.7	65.3	62.4	62.7	57.5	56.5	60.68	30.868	.884	29.84
	47	Uranus	. .	5	I–IX.	105 34 60.2	67.8	66.1	66.2	60.8	60.1	63.53	30.335	.370	. .
4	48	Lacaille 996 . . .	7.0	5	III–VII.	153 9 58.8	61.0	60.5	59.0	57.5	57.1	58.98	34.841	.854	29.64
	49	Rumker 952 . . .	9.0	1	V.	105 14 60.1	66.2	62.0	61.4	62.0	60.8	62.08	37.050	.073	. .
	50	17*b* Pleiadum	5.0	1	V.	" " "	"	"	"	"	"	"	34.954	.971	. .
	51	1 Pleiadum	. .	1	V.	" " "	"	"	"	"	"	"	26.139	.166	. .
	52	23*d* Pleiadum	6.0	1	V.	" " "	"	"	"	"	"	"	16.396	.414	. .
	53	13 Pleiadum	9.0	1	V.	" " "	"	"	"	"	"	"	21.930	.946	. .
	54	η Tauri	5.0	1	V.	" " "	"	"	"	"	"	"	34.818	.827	. .
	55	27*f* Pleiadum	. .	4	I–IV.	" " "	"	"	"	"	"	"	29.406	.396	. .
	56	28*h* Pleiadum	7.5	4	VI–IX.	" " "	"	"	"	"	"	"	38.975	.996	. .
	57	B. A. C. 1195 . .	8.0	1	V.	" " "	"	"	"	"	"	"	19.328	.352	29.65
	58	Lacaille 1474 . .	8.0	1	V.	155 24 61.2	64.6	62.8	61.4	60.3	59.0	61.55	27.218	.245	. .
	59	Nadir 4h. 15m. . .	. .	3	. .	269 59 62.0	65.0	62.2	61.9	61.1	61.2	62.23*d*	29.859	.874	. .
	60	Uranus	. .	4	III–VII.	105 34 60.0	67.0	63.1	63.0	62.9	61.0	62.83	30.182	.203	29.65
	61	Mercury	. .	5	I–IX.	147 14 61.0	65.4	62.0	61.1	59.9	59.5	61.48	24.405	.431	29.6
	62	Nadir 21h. 10m. . .	. .	3	. .	269 59 60.0	60.7	59.8	59.1	58.5	59.8	59.65	29.791	.808	. .
5	63	Sun S. L. . . .	. .	4	I–IV.	144 59 60.4	64.6	60.0	59.2	60.5	59.8	60.75	15.370	.396	29.67
	64	B. A. C. 1211, (Ref.)	. .	3	IV½–V½.	311 24 59.9	61.5	59.9	55.0	58.0	58.3	58.77	30.213	.244	. .
	65	B. A. C. 1211 . .	5.3	3	VI½–VII½.	48 34 60.5	64.2	61.1	62.5	62.2	64.1	62.43	29.540	.470	29.64
	66	Nadir 4h. 7m. . .	. .	3	. .	269 59 60.4	61.4	58.6	57.9	59.6	60.9	59.80	29.787	.803	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—				Corrected Reading.	Observed Declination.		Reduct'n to 1860.0.		Observer.	REMARKS.
	At.	Ex.		Micrometer.		Object.								
	°	°	r.		′ ″		′ ″	° ′ ″		° ′ ″		″		
1	55.0	53.1	29.802	—	1 40.5	+	2 8.2	155 45 17.2	—	26 51 38.0	—	27.2	Ha.	
2														Tried to observe Hebe, but it was too faint.
3	54.0	48.4	. .		45.5		16.2	105 34 30.8	+	23 19 8.4				Very unsteady.
4	53.0	46.4	. .	—	1 15.4		1 52.3	152 25 35.4	—	23 31 56.2	+	15.1		
5	. .	. .	. .	+	1 49.9		1 53.8	152 43 42.4		23 50 3.2		17.6		
6	52.0	46.1	. .		1 38.3		1 52.6	152 28 29.6		23 34 50.4	+	20.0		
7	41.5	40.4	29.781	+	2 42.6		1 37.3	150 29 20.1	—	21 35 40.9			N.	
8	. .	. .	. .	—	51.7	+	0.2	90 14 9.9	+	38 39 29.3	—	7.8		Very steady.
9	50.5	58.5	. .	+	2 37.5	—	14 54.7	146 52 41.1	—	17 59 1.9				
10														
11	55.8	55.3	. .	—	1 51.5	—	2 11.2	23 35 56.2	+	74 42 17.0	+	81.2		Cloudy. Bar. and Ther. read at 3h. 5m.
12	. .	. .	. .	+	2 23.5	+	8.6	278 27 29.8		47 21 9.0	—	58.7		Unsteady.
13	. .	. .	. .	—	2 21.9	—	8.6	81 32 29.6		47 21 9.6				
14	. .	. .	. .	+	51.1	+	23.8	112 21 13.4	+	16 32 25.8		46.3		
15	. .	53.9	. .		1 45.9		2 7.2	155 38 49.7	—	26 45 10.5		32.2		
16	. .	. .	. .	+	15.9		2 4.3	155 7 18.0		26 13 38.8		27.3		Faint; cloudy.
17	. .	53.2	. .	—	32.9	+	1 0.3	136 5 26.1	—	7 11 46.9		30.1		
18	. .	. .	. .	—	3.6	—	23.1	248 19 33.2	+	17 13 12.4		34.3		Very satisfactory.
19	. .	. .	. .	+	0.2	+	23.1	111 40 23.7		17 13 15.5				
20	. .	. .	. .	—	41.8	+	24.3	112 39 41.6		16 13 57.6		29.1		
21	. .	. .	. .	—	25.0	—	22.8	68 39 11.3		60 14 27.9		32.1		
22	. .	50.0	. .	+	26.4	+	22.8	291 20 47.1	+	60 14 26.3				Good.
23	. .	. .	. .	+	32.1	—	1 3.2	222 44 27.7	—	8 21 53.1	—	7.2		Blurred and unsteady.
24	. .	. .	. .	—	34.0	+	1 3.2	137 15 28.8	—	8 21 49.6				
25	. .	. .	. .		42.3	+	16.2	105 34 34.7	+	23 19 4.5				
26														
27	41.8	33.5	. .	—	1 51.2	—	2 16.0	23 35 56.7	+	74 42 17.5	+	81.5		
28	. .	. .	. .	+	32.4	+	1 35.2	147 57 7.4	—	19 3 28.2	—	43.0		Micrometer recorded 33*r*.
29	. .	33.0	. .		1 18.8	—	6 25.9	8 19 53.8	+	59 26 14.6	+	71.5		
30	. .	. .	. .	+	1 21.4	+	2 7.6	154 58 29.2	—	26 4 50.0	—	36.9		
31	. .	. .	. .	—	3 15.3		16.1	105 2 3.4	+	23 51 35.8		49.7		
32	. .	. .	. .		6 9.4		16.1	104 59 9.3		23 54 29.9		49.4		
33	. .	. .	. .		8 7.5		16.0	104 57 11.1		23 56 28.1		49.3		
34	. .	. .	. .		3 37.2		16.0	105 1 41.4		23 51 57.8		48.8		Units of revolutions assumed.
35	. .	. .	. .		7 12.7		16.0	104 58 5.9		23 55 33.3		48.5		
36	. .	. .	. .		1 29.7		16.1	105 3 49.0	+	23 49 50.2		48.1		
37	. .	32.5	. .	—	1 31.1		2 10.9	155 30 40.3	—	26 37 1.1		29.2		
38	. .	. .	. .	+	10.6		2 8.7	155 7 20.2		26 13 41.0		26.6		
39														
40	. .	. .	. .	—	1 17.4		4 34.0	167 58 17.7		39 4 38.5		11.1		
41	. .	. .	. .	+	1 17.7		4 34.6	168 0 53.4		39 7 14.2		10.3		Very faint.
42	. .	. .	. .		2.7		3 29.3	164 13 32.4		35 19 53.2		8.8		
43	. .	32.0	. .	+	47.1		3 29.5	164 14 17.0		35 20 37.8		7.9		
44	. .	. .	. .	—	2 30.5	+	2 3.5	154 9 33.0		25 15 53.8	—	7.7		
45	. .	. .	. .	+	21.8	—	1 39.2	31 8 45.6		82 15 6.3	+	34.6		
46	36.3	31.7	. .	—	34.6	+	1 5.0	137 15 31.0	—	8 21 51.8	—	6.4		
47	. .	. .	. .		18.5		16.7	105 35 1.7	+	23 18 37.5				
48	43.0	39.3	29.809		2 38.1		1 55.7	153 9 16.5	—	24 15 37.3		43.8	Ha.	
49	. .	. .	. .		3 47.6		16.0	105 11 30.4	+	23 42 8.8		49.8		
50	. .	. .	. .	—	2 41.7		16.1	105 12 36.4		23 41 2.8		49.6		
51	. .	. .	. .	+	1 54.1		16.2	105 17 12.3		23 36 26.9		49.4		
52	. .	. .	. .		6 59.7		16.2	105 22 17.9		23 31 21.3		49.0		
53	. .	. .	. .	—	4 6.4		16.2	105 19 24.6		23 34 14.6		48.8		
54	. .	. .	. .	+	2 37.2		16.1	105 12 40.9		23 40 58.3		48.7		
55	. .	. .	. .	+	12.9		16.1	105 15 31.0		23 38 8.2		48.1		
56	. .	. .	. .	—	4 47.9		16.0	105 10 30.1		23 43 9.1		48.1		
57	42.5	37.8	. .	+	5 27.6		16.2	105 20 45.8	+	23 32 53.4		47.5		
58	. .	. .	. .	+	1 20.3		2 8.7	155 28 30.5	—	26 34 51.3		17.6		Very hazy and cloudy.
59														
60	41.0	37.1	. .	—	12.3		16.4	105 35 6.9	+	23 18 32.3				Wire VI omitted. Very faint; through clouds.
61	41.7	43.9	. .	+	2 48.5	+	1 21.0	147 19 10.0	—	18 25 30.8			N.	
62														
63	44.3	48.8	. .	+	7 31.6	—	14 59.7	144 52 32.6	—	15 58 53.4				Sun very well defined.
64	. .	. .	. .	—	13.6	+	51.3	311 25 36.4	+	80 19 15.6		61.5		
65	47.0	44.5	. .	+	10.6	—	51.3	48 34 21.7	+	80 19 17.5	—	61.5		
66														

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864, Feb. 7	1	Venus, centre . .	. .	3	IV-VI.	150 39 58.7	63.5	61.9	62.2	56.4	57.7	60.07	28.067	.092	29.673
	2	Nadir 21h. 15m. . .	. .	3	. .	269 59 59.1	62.9	59.5	61.4	57.8	59.5	60.06	29.794	.809	. .
8	3	Sun N. L. . . .	. .	4	I-IV.	143 39 59.2	63.8	60.4	61.2	57.1	58.4	60.02	31.002	.027	. .
	4	Sun S. L. . . .	. .	4	VI-IX.	144 9 58.2	63.0	60.1	60.3	56.9	57.5	59.33	26.372	.404	29.672
	5	Nadir	. .	2	. .	269 59 61.1	63.4	60.9	61.9	58.9	59.7	60.98	29.843	.858	. .
	6	Rumker 945 . . .	8.0	1	V.	105 4 60.2	65.6	62.4	62.9	60.1	61.3	62.08	45.460	.472	29.783
	7	16g Pleiadum	6.5	1	V.	" " "	"	"	"	"	"	"	36.018	.039	. .
	8	20c Pleiadum	5.0	1	V.	" " "	"	"	"	"	"	"	45.286	.312	. .
	9	24 Pleiadum	8.0	1	V.	" " "	"	"	"	"	"	"	36.750	.754	. .
	10	29 Pleiadum	8.0	1	V.	" " "	"	"	"	"	"	"	43.630	.631	. .
	11	Lacaille 1509 . .	7.5	5	III-VII.	154 44 58.9	63.4	61.2	61.0	57.9	58.1	60.08	34.216	.247	29.800
	12	Hebe	9.4	1	IX.	120 54 59.4	63.2	60.1	60.6	57.1	57.8	59.70	31.666	.684	. .
	13	Anon. 4h. 33m. 48s.	8.8	1	II.	" " "	"	"	"	"	"	"	34.970	.965	. .
	14	Anon. 4h. 54m. 20s.	7.2	5	I-IX.	154 9 59.5	64.1	61.9	61.6	57.6	57.5	60.37	34.589	.603	29.818
	15	Lacaille 1754 . .	7.3	5	I-IX.	166 24 59.6	64.5	62.2	64.7	58.6	58.1	61.28	32.463	.494	. .
	16	Lacaille 1806 . .	7.3	5	III-VII.	158 14 59.4	63.3	62.2	62.0	56.9	57.4	60.20	35.337	.365	. .
	17	Uranus	. .	5	I-IX.	105 34 59.1	65.6	63.0	63.8	59.9	59.9	61.88	29.699	.690	29.826
	18	ω Draconis, S. P. . .	. .	5	VII-III.	17 44 59.8	63.4	63.1	64.6	57.5	57.9	61.05	28.403	.441	. .
	19	ψ¹ Draconis, S. P. . .	4.0	3	VI-IV.	21 9 59.6	62.6	61.7	63.9	57.9	59.1	60.80	31.999	.028	. .
	20	Lacaille 2122 . .	7.7	5	I-IX.	156 54 59.2	63.8	61.7	63.5	57.6	57.9	60.62	30.154	.194	29.834
	21	Lacaille 2189 . .	. .	5	III-VII.	157 14 59.2	64.0	61.3	63.4	57.7	57.6	60.53	25.243	.274	. .
	22	δ Ursæ Minoris, S. P.	4.0	2	2, 1.	35 29 58.5	62.5	60.9	63.7	56.5	58.1	60.03	27.686	.690	. .
	23	Nadir 6h. 30m. . .	. .	3	. .	269 59 60.2	63.5	60.5	63.2	57.1	59.3	60.63	29.824	.839	. .
	24	ε Canis Majoris . .	. .	5	I-IX.	145 24 59.9	64.6	61.4	62.3	58.6	58.6	60.90	31.018	.046	29.848
	25	50 Draconis, S. P. . .	. .	3	V-III.	24 9 60.0	64.6	62.9	65.5	57.5	59.2	61.62	25.881	.911	. .
9	26	17b Pleiadum	6 0	1	V.	105 14 59.7	67.2	61.9	65.1	60.0	61.4	62.55	34.970	.988	29.950
	27	1 Pleiadum	9.0	1	V.	" " "	"	"	"	"	"	"	26.139	.166	. .
	28	7 Pleiadum	9.0	1	VI.	" " "	"	"	"	"	"	"	26.802	.815	. .
	29	23d Pleiadum	. .	1	VI.	" " "	"	"	"	"	"	"	16.420	.442	. .
	30	24h Pleiadum	. .	1	V.	" " "	"	"	"	"	"	"	36.129	.155	. .
	31	η Tauri	. .	1	VII.	" " "	"	"	"	"	"	"	34.863	.882	. .
	32	27f Pleiadum	6.0	3	I, II, IV.	" " "	"	"	"	"	"	"	29.428	.414	. .
	33	28h Pleiadum	7.0	4	VI-IX.	" " "	"	"	"	"	"	"	39.017	.043	. .
	34	40 Pleiadum	9.0	1	V.	" " "	"	"	"	"	"	"	19.374	.395	. .
	35	B. A. C. 1229 . .	7.5	3	IV-VI.	142 49 57.9	63.2	60.0	61.2	56.4	56.5	59.20	25.494	.504	. .
	36	γ¹ Eridani	3.0	5	III-VII.	" " "	"	"	"	"	"	"	36.771	.778	29.986
	37	Nadir 4h. 11m. . .	. .	3	. .	269 59 58.8	63.6	58.9	62.2	57.2	57.7	59.73d	29.776	.791	. .
	38	B. A. C. 1482 . .	. .	5	III-VII.	157 14 59.9	65.4	61.1	64.1	58.5	57.5	61.08	36.237	.268	29.980
	39	O. Arg. S. 3492 . .	8.0	5	III-VII.	154 44 59.9	65.8	62.0	63.3	58.6	59.0	61.43	31.321	.350	. .
	40	B. A. C. 1531 . .	7.5	4	VI-IX.	" " "	"	"	"	"	"	"	22.886	.927	. .
	41	α Aurigæ, (Ref.) . .	. .	4	I-IV.	276 54 60.4	65.3	61.9	64.9	60.0	60.1	62.10	24.849	.869	. .
	42	α Aurigæ . . .	. .	2	VIII, IX.	83 4 60.8	67.8	63.1	67.9	60.4	62.3	63.72	35.031	.034	. .
	43	B. A. C. 1688 . .	. .	5	III-VII.	155 44 59.0	65.2	59.8	62.8	57.3	57.0	60.18	35.844	.859	30.000
	44	α Lyræ	. .	5	I-IX.	90 14 59.6	68.8	63.6	68.5	58.0	59.9	63.07	31.437	.431	. .
	45	Venus	. .	5	I-IX.	150 34 58.7	65.9	63.1	67.0	56.4	56.9	61.33	27.800	.817	30.168
	46	Mercury	. .	5	I-IX.	147 59 59.0	64.2	62.4	64.4	55.9	56.0	60.32	25.757	.771	30.163
10	47	Sun N. L. . . .	. .	4	I-IV.	142 59 58.6	64.9	60.5	63.9	58.0	57.4	60.55	28.136	.167	. .
	48	Sun S. L. . . .	. .	4	VI-IX.	143 29 58.0	64.5	60.9	63.0	57.5	56.5	60.07	23.440	.461	30.182
	49	Nadir 4h. 20m. . .	. .	3	. .	269 59 59.4	65.4	60.9	65.0	57.6	57.4	60.95	29.830	.845	. .
	50	Lacaille 1504 . .	8.0	1	V.	154 19 59.9	67.0	63.7	64.9	58.8	57.4	61.95	26.956	.973	. .
	51	Lacaille 1521 . .	7.2	5	III-VII.	" " "	"	"	"	"	"	"	47.002	.026	30.293
	52	O. Arg. S. 3382 . .	7.5	1	V.	155 24 59.1	65.6	63.4	64.6	58.4	56.0	61.18	30.675	.676	. .
	53	O. Arg. S. 3488 . .	8.2	3	IV-VI.	155 49 58.6	64.4	61.5	63.7	57.3	55.2	60.12	32.245	.274	. .
	54	ε Ursæ Minoris, S. P.	. .	3	VI.	31 9 58.4	64.6	62.3	66.5	57.4	57.3	61.08	29.001	.048	. .
	55	Uranus	. .	5	I-IX.	105 34 59.0	67.5	63.8	65.6	59.7	57.8	62.23	29.495	.492	30.300
	56	35 Draconis, S. P. . .	5.0	3	VI-IV.	25 54 59.1	66.2	63.8	66.4	57.5	57.6	61.77	31.221	.256	30.306
	57	δ Ursæ Minoris, S. P.	. .	3	V-1.	35 29 59.4	65.0	63.2	66.8	58.1	57.6	61.68	27.628	.642	. .
	58	Nadir 7h. 10m. . .	. .	3	. .	269 59 59.1	65.9	61.0	66.1	57.2	56.9	61.03	29.864	.879	. .
	59	Venus N. L. . . .	. .	5	I-IX.	150 34 58.1	67.0	62.9	66.7	57.0	55.2	61.15	34.439	.463	30.418
	60	Venus S. C. . . .	. .	4	II-VIII.	" " "	"	"	"	"	"	"	33.972	.996	. .
11	61	Sun N. L. . . .	. .	4	I-IV.	142 44 57.8	65.9	60.1	64.9	58.1	57.0	60.63	36.912	.932	30.340
	62	Sun S. L. . . .	. .	4	VI-IX.	143 14 58.5	65.5	58.8	64.4	57.0	57.1	60.22	32.227	.260	. .
	63	17b Pleiadum . . .	6.0	5	I-V.	105 14 58.4	65.9	59.2	62.6	59.9	60.1	61.02	34.982	.980	. .
	64	1 Pleiadum . . .	9.0	1	V.	" " "	"	"	"	"	"	"	26.149	.176	. .
	65	7 Pleiadum . . .	9.0	1	V.	" " "	"	"	"	"	"	"	26.715	.717	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	41.0	40.0	29.809	+ 53.8	+ 1 37.7	150 42 31.5	− 21 48 52.3		N.	
2										
3	. .	. .	. .	− 38.2	1 12.2	143 40 34.0	14 46 54.8			
4	43.3	44.1	. .	+ 1 46.7	1 13.7	144 12 59.7	− 15 3 7.6			Hazy; limbs ill defined.
5										
6	41.2	38.0	29.823	− 8 10.1	15.8	104 57 7.7	+ 23 56 31.5	− 50.0		
7	. .	. .	. .	3 14.8	15.9	105 2 3.1	23 51 36.1	49.6		
8	. .	. .	. .	8 5.1	15.8	104 57 12.7	23 56 26.5	49.3		
9	. .	. .	. .	3 37.2	15.9	105 1 40.7	23 51 58.5	48.8		
10	. .	. .	. .	7 12.6	15.9	104 58 5.3	+ 23 55 33.9	48.4		
11	40.2	36.9	. .	2 18.6	2 5.3	154 44 46.7	− 25 51 7.5	16.8		
12	. .	. .	. .	58.3	35.6	120 54 37.0	+ 7 59 2.2			Doubtful whether the magnitudes of Hebe
13	. .	. .	. .	41.1	35.6	120 52 54.2	+ 8 0 45.0	24.0		and next star should not be interchanged.
14	39.4	36.2	. .	2 27.5	2 2.3	154 9 35.1	− 25 15 55.9	− 6.9		Follows Hebe 3s. or 4s.
15	. .	. .	. .	1 23.7	4 2.0	166 27 39.5	37 34 0.3	+ 0.1		
16	. .	. .	. .	− 2 53.7	2 28.3	158 14 34.8	− 29 20 55.6	1.6		
17	38.7	35.1	. .	+ 4.2	+ 16.5	105 35 22.5	+ 23 18 16.7			
18	. .	. .	. .	+ 43.3	− 3 4.7	17 42 39.6	68 49 0.3	20.0		
19	. .	. .	. .	− 1 9.1	− 2 33.5	21 6 18.2	+ 72 12 38.9	17.0		
20	37.7	34.4	. .	− 11.6	+ 2 19.6	156 57 8.6	− 28 3 29.4	17.3		
21	. .	. .	. .	+ 2 22.5	+ 2 22.2	157 19 45.2	− 28 26 6.0	20.4		
22	. .	. .	. .	+ 1 6.8	− 1 23.8	35 29 43.0	+ 86 36 3.7	2.3		
23										
24	37.0	33.8	. .	− 38.3	+ 1 26.8	145 25 49.4	− 16 32 10.2	+ 29.6		
25	. .	. .	. .	+ 2 2.6	− 2 12.8	24 9 51.4	+ 75 16 12.2	− 12.4		
26	38.0	33.9	29.800	− 2 42.6	+ 16.4	105 12 36.3	23 41 2.9	49.5	Ha.	
27	. .	. .	. .	+ 1 53.9	16.5	105 17 12.9	23 36 26.3	49.3		
28	. .	. .	. .	1 33.5	16.5	105 16 52.5	23 36 46.7	49.2		
29	. .	. .	. .	+ 6 58.6	16.6	105 22 17.7	23 31 21.5	49.0		
30	. .	. .	. .	− 3 19.1	16.4	105 11 59.8	23 41 39.4	48.7		
31	. .	. .	. .	− 2 39.2	16.4	105 12 39.7	23 40 59.5	48.6		
32	. .	. .	. .	+ 12.1	16.4	105 15 31.0	23 38 8.2	48.1		
33	. .	. .	. .	− 4 49.6	16.4	105 10 29.3	23 43 9.9	48.1		
34	. .	. .	. .	+ 5 26.0	16.6	105 20 45.1	+ 23 32 54.1	47.5		
35	. .	. .	. .	+ 2 14.6	1 19.5	142 53 33.3	− 13 59 54.1	32.3		
36	38.0	33.3	. .	− 3 38.6	1 19.2	142 47 39.8	13 54 0.6	31.8		
37										
38	37.0	31.5	. .	3 22.7	2 23.0	157 14 1.3	28 20 22.1	10.9		
39	. .	. .	. .	− 48.6	2 7.7	154 46 20.5	25 52 41.3	8.4		
40	. .	. .	. .	+ 3 35.3	2 8.1	154 50 44.8	− 25 57 5.6	8.2		
41	. .	. .	. .	+ 2 34.5	+ 7.4	276 57 44.0	+ 45 51 23.2	23.1		
42	. .	. .	. .	− 2 44.0	− 7.4	83 2 12.3	+ 45 51 26.9	− 23.1		
43	36.5	30.4	. .	3 9.8	+ 2 13.7	155 44 4.0	− 26 50 24.8	+ 2.1		
44	. .	. .	29.820	− 50.5	0.2	90 14 12.8	+ 38 39 26.4	− 5.0	N	
45	29.3	28.5	. .	+ 1 2.8	1 41.9	150 37 46.0	− 21 44 6.8			
46	32.0	30.5	. .	2 6.9	1 28.9	148 3 36.7	19 9 56.9			Very faint and tremulous.
47	. .	. .	. .	51.8	1 13.7	143 2 6.0	14 24 41.0			
48	35.6	32.3	. .	3 19.3	1 15.2	143 34 34.5				Limbs undulating excessively.
49										Image very faint and uncertain.
50	. .	. .	29.835	+ 1 29.7	2 8.4	154 23 40.0	25 30 0.8	16.4		
51	30.0	25.5	. .	− 8 58.7	2 7.4	154 13 10.6	25 19 31.4	15.6		
52	. .	. .	. .	26.4	2 14.7	155 26 49.4	26 33 10.2	11.1		
53	. .	. .	. .	− 1 16.4	+ 2 17.2	155 51 0.9	− 26 57 21.7	− 8.2		
54	. .	. .	. .	+ 24.7	− 1 42.2	31 8 43.5	+ 82 15 4.3	+ 36.0		Steady. Middle reading at wire VI. One
55	28.5	24.8	. .	+ 10.8	+ 17.2	105 35 30.2	23 18 9.1			reading 23s. before, and the other 35s. after.
56	. .	24.1	. .	− 44.5	− 2 7.4	25 52 9.8	76 58 30.6	12.5		
57	. .	. .	. .	+ 1 8.7	− 1 27.0	35 29 43.3	+ 86 36 4.1	+ 2.8		
58										Image steady.
59	25.5	24.1	29.856	− 2 24.4	+ 1 43.6	150 34 20.3	− 21 40 48.5		Ha.	
60	. .	. .	. .	2 9.7	1 43.6	150 34 35.0				
61	31.0	32.1	. .	3 41.7	1 13.3	142 42 32.2	− 14 5 6.7			
62	. .	. .	. .	1 15.4	1 14.8	143 14 59.6				
63	. .	. .	. .	− 2 40.6	16.5	105 12 36.9	+ 23 41 2.3	− 49.4		
64	. .	. .	. .	+ 1 55.3	16.6	105 17 12.9	23 36 26.3	49.2		
65	. .	. .	. .	+ 1 38.4	+ 16.6	105 16 56.0	+ 23 36 43.2	− 49.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. Feb. 11	1	23*d* Pleiadum . . .	6.0	1	V.	105 14 58.4	65.9	59.2	62.6	59.9	60.1	61.02	16.410	.427	. .
	2	24*h* Pleiadum . . .	8.0	1	V.	" " "	"	"	"	"	"	"	36.080	.104	. .
	3	η Tauri	5.0	3	VI-IX.	" " "	"	"	"	"	"	"	34.838	.853	. .
	4	27*f* Pleiadum . . .	5	3	III-V.	" " "	"	"	"	"	"	"	29.400	.406	. .
	5	28*h* Pleiadum . . .	. .	3	VII-IX.	" " "	"	"	"	"	"	"	39.014	.041	. .
	6	B. A. C. 1195 . .	8	3	IV-VI.	" " "	"	"	"	"	"	"	19.372	.392	30.154
	7	Nadir	. .	3	. .	269 59 58.6	62.9	57.5	60.9	57.2	58.1	59.20*d*	29.811	.826	. .
	8	Lacaille 1531 . .	7	4	VI-IX.	156 14 60.7	65.2	61.0	63.9	60.0	58.0	61.47	37.239	.294	30.140
	9	α Aurigæ, (Ref.) . .	. .	4	I-V.	276 54 59.6	63.2	59.3	62.0	59.9	59.8	60.63	24.831	.849	. .
	10	α Aurigæ	. .	3	VII-IX.	83 4 59.9	66.5	61.6	64.5	60.5	62.1	62.52	35.015	.022	. .
	11	Uranus	. .	5	III-VII.	105 34 59.5	67.2	61.4	64.1	61.3	61.9	62.57	29.373	.391	30.136
	12	α Canis Majoris . .	. .	5	III-VII.	145 24 60.0	65.8	60.2	61.9	60.2	60.5	61.43	31.048	.073	30.086
	13	Venus, centre . .	. .	5	III-VII.	150 29 59.1	65.3	60.9	63.1	59.2	59.6	61.20	32.014	.038	29.832
12	14	Sun N. L. . . .	. .	4	I-IV.	142 14 59.2	63.8	58.6	60.9	58.8	61.2	60.42	17.178	.200	. .
	15	Sun S. L. . . .	. .	4	VI-IX.	142 49 58.8	63.6	58.9	60.0	58.9	60.5	60.12	22.196	.229	29.798
	16	Nadir 21h. 55m. .	. .	3	. .	269 59 60.8	62.4	58.8	58.9	59.9	61.8	60.43	29.847	.862	. .
	17	Moon S. L. . .	. .	5	III-VII.	115 14 62.2	68.5	61.5	61.7	64.2	65.9	64.00	26.993	.011	29.812
	18	17*b* Pleiadum . . .	. .	1	V.	105 9 58.0	62.0	57.0	56.8	60.1	61.7	59.27	25.318	.343	. .
	19	8 Pleiadum . . .	. .	3	IV-VI.	" " "	"	"	"	"	"	"	35.195	.221	. .
	20	24*h* Pleiadum . . .	. .	3	IV-VI.	" " "	"	"	"	"	"	"	26.433	.447	. .
	21	η Tauri	. .	4	VI-IX.	" " "	"	"	"	"	"	"	25.190	.222	. .
	22	27*f* Pleiadum . . .	. .	3	IV-VI.	" " "	"	"	"	"	"	"	19.809	.816	. .
	23	28*h* Pleiadum . . .	. .	2	VIII, IX.	" " "	"	"	"	"	"	"	29.382	.407	29.857
	24	δ¹ Tauri	. .	3	I-IV.	111 39 58.7	61.8	56.5	56.5	58.6	61.6	58.95	29.761	.744	. .
	25	δ¹ Tauri, (Ref.) . .	. .	4	VI-IX.	248 19 53.0	53.4	52.5	52.0	55.0	57.4	53.88	29.734	.760	. .
	26	α Camelopardali . .	. .	3	III-IV.	62 49 59.5	62.7	58.8	59.4	60.6	64.4	60.90	34.594	.565	. .
	27	α Camelopardali, (Ref.)	. .	3	VII-IX.	297 9 58.4	60.6	57.0	56.4:	58.2	58.5	58.18	25.100	.194	29.868
	28	ε Ursæ Minoris, S. P.	. .	3	V-1.	31 9 59.8	62.5	60.1	61.1	61.2	62.8	61.25	29.263	.290	. .
	29	Uranus	. .	5	I-IX.	105 34 58.7	63.9	59.0	58.5	61.4	62.8	60.72	29.250	.266	. .
	30	Nadir	. .	3	. .	269 59 60.1	61.7	58.0	58.4	59.6	62.6	60.07	29.854	.869	. .
	31	51 (Hev.) Cephei . .	. .	5	1-5.	41 39 59.9	64.6	62.4	62.9	61.9	65.4	62.85	30.047	.068	29.908
13	32	Sun S. L. . . .	. .	4	I-IV.	142 34 58.5	65.8	59.3	62.9	59.2	61.2	61.15	31.794	.806	29.858
	33	Sun N. L. . . .	. .	4	VI-IX.	142 4 58.3	65.2	59.2	61.8	59.2	60.0	60.62	36.485	.501	. .
	34	Nadir 23h. 27m. .	. .	3	. .	269 59 58.4	58.3	56.0	56.1	56.1	59.0	57.32	29.768	.784	. .
	35	Moon S. L. . . .	. .	4	VI-IX.	112 4 13.5	18.5	12.4	14.0	14.0	15.8	14.70	35.114	.022	29.771
	36					13.8	17.9	12.2	13.7	13.2	16.1	14.48			
	37	ω² Tauri	. .	3	IV-VI.	108 44 57.1	62.2	55.8	56.9	57.8	58.9	58.12	41.529	.534	29.768
	38	Anon. 4h. 41m. 1s. .	9.5	1	V.	118 9 57.3	61.8	54.7	56.2	57.0	58.3	57.55	35.925	.940	. .
	39	Weisse IV, 926 . .	7.5	5	III-VII.	" " "	"	"	"	"	"	"	42.689	.690	. .
	40	Weisse IV, 1028 .	8	5	III-VII.	120 29 57.1	60.3	55.5	55.9	56.9	57.1	57.13	28.644	.644	29.776
	41	α Aurigæ, (Ref.) . .	. .	3	II-IV.	276 54 59.1	60.3	57.8	58.0	59.2	61.2	59.27	24.803	.813	. .
	42	α Aurigæ	. .	4	VI-IX.	83 4 58.3	62.4	60.0	59.1	59.6	62.1	60.25	34.941	.948	. .
	43	Uranus	. .	5	III-VII.	105 34 56.3	65.3	60.1	59.2	61.0	61.8	60.95	29.128	.151	29.778
	44	Nadir 5h. 36m. . .	. .	3	. .	269 59 58.6	61.0	56.8	58.0	57.0	60.4	58.63*d*	28.818	.826	. .
	45	μ Geminorum . . .	. .	3	VII-IX.	106 19 57.9	64.0	59.2	59.1	60.3	60.0	60.08	32.440	.459	29.758
	46	α Canis Majoris . .	. .	4	VI-IX.	145 24 59.1	63.0	58.9	58.5	59.1	60.2	59.80	30.923	.961	. .
	47	ε Canis Majoris . .	. .	5	III-VII.	157 39 60.0	63.0	60.2	60.0	59.5	60.8	60.58	31.940	.960	. .
	48	B. A. C. 2298 . .	9	1	VIII.	" " "	"	"	"	"	"	"	33.202	.264	29.738
	49	α² Geminorum, (Ref.) .	. .	3	II-IV.	263 14 60.8	63.8	60.8	62.1	60.5	63.9	61.98	25.468	.476	. .
	50	α² Geminorum . . .	. .	2	VII, IX.	96 44 60.3	68.0	63.7	63.3	63.8	64.3	63.90	34.438	.448	29.738
16	51	Sun N. L. . . .	. .	4	I-IV.	141 4 59.9	65.4	60.8	63.9	58.3	60.0	61.38	38.992	.016	29.400
	52	Sun S. L. . . .	. .	4	VI-IX.	141 34 59.0	65.2	61.6	63.0	59.0	59.1	61.15	34.301	.332	. .
	53	Weisse IV, 986 . .	8	4	III-VII.	120 29 60.2	66.7	62.0	63.4	59.0	58.2	61.58	23.130	.153	29.682
	54	Weisse V, 136 . .	6	5	III-VII.	137 14 60.4	67.1	63.1	63.9	58.7	57.8	61.83	36.866	.879	29.706
	55	Uranus	. .	5	III-VII.	105 34 60.3	68.5	65.0	67.0	60.4	60.9	63.68	29.026	.045	. .
	56	Moon S. L. . . .	. .	5	III-VII.	108 44 60.3	67.8	62.7	65.8	57.9	59.3	62.30	26.689	.688	29.730
	57	Nadir 6h. 0m. . .	. .	5	. .	269 59 60.4	69.8	59.7	59.0	63.0	59.8	61.95*d*	29.945	.959	. .
	58	α Canis Majoris . .	. .	5	III-VII.	145 24 60.3	67.5	63.5	66.9	57.2	59.1	62.42	31.075	.101	29.740
17	59	π¹ Columbæ	. .	5	III-VII.	171 4 61.1	70.9	69.5	73.6	59.0	55.6	64.95	31.143	.176	30.263
	60	Nadir 6h. 20m. . .	. .	3	. .	269 59 58.1	67.7	54.8	68.5	57.5	52.0	59.77	29.833	.848	. .
	61	Moon N. L. . . .	. .	4	I-IV.	109 19 58.0	70.2	63.6	68.2	57.7	51.7	61.57	31.141	.068	. .
	62	Moon S. L. . . .	. .	4	VI-IX.	109 49 57.4	69.8	64.8	68.5	57.5	52.4	61.73	30.662	.744	30.309
18	63	Sun S. L. . . .	. .	4	I-IV.	140 49 57.6	66.8	62.3	61.6	58.3	51.0	59.60	28.572	.580	30.446
	64	Sun N. L. . . .	. .	4	VI-IX.	140 19 58.0	68.2	61.5	63.1	59.0	51.0	60.13	33.052	.079	. .
	65	α Canis Majoris . .	. .	5	III-VII.	145 24 57.5	65.8	62.0	62.2	58.0	52.0	59.58	31.079	.105	30.468

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.856	+ 7 0.8	+ 16.7	105 22 18.5	+ 23 31 20.7	— 48.8	Ha.	
2	. .	. .	. .	— 3 15.8	16.5	105 12 1.7	23 41 37.5	48.6		
3	. .	. .	. .	— 2 36.6	16.5	105 12 40.9	23 40 58.3	48.5		Missed wire VII.
4	. .	. .	.	+ 14.1	16.5	105 15 31.6	23 38 7.6	48.0		
5	. .	. .	. .	— 4 47.8	16.5	105 10 29.7	23 43 9.5	48.0		
6	35.3	32.1	. .	+ 5 27.9	16.7	105 20 45.6	+ 23 32 53.6	47.3		
7										
8	35.5	30.7	. .	— 3 53.1	2 17.3	156 13 25.6	— 27 19 46.4	14.4		
9	. .	. .	. .	+ 2 36.9	+ 7.5	276 57 45.0	+ 45 51 24.3	23.2		Missed wire IV.
10	. .	. .	. .	— 2 41.9	— 7.5	83 2 13.1	45 51 26.1	— 23.2		
11	35.5	29.5	. .	+ 14.6	+ 16.9	105 35 34.0	+ 23 18 5.2			
12	35.0	29.3	. .	— 38.1	1 27.7	145 25 51.0	— 16 32 11.8.	+ 30.1		
13	37.0	40.2	. .	— 1 8.4	1 37.7	150 30 30.5	21 36 51.3			Very faint; through thick haze.
14	. .	. .	. .	+ 6 36.6	1 8.6	142 22 45.6	— 13 45 18.1		N.	
15	40.3	47.5	. .	3 59.0	+ 1 9.9	142 55 9.1				
16										
17	44.0	49.7	. .	1 29.2	— 39 52.5	114 36 40.7	+ 14 16 58.5		Ha.	Very faint and uncertain.
18	. .	. .	. .	+ 2 21.4	+ 15.9	105 12 36.5	23 41 2.7	— 49.3	N.	
19	. .	. .	. .	— 2 48.1	15.8	105 7 26.9	23 46 12.3	48.7		
20	. .	. .	. .	+ 1 46.8	15.9	105 12 1.9	23 41 37.3	48.5		
21	. .	. .	. .	2 25.2	15.9	105 12 40.3	23 40 58.9	48.4		
22	. .	. .	. .	5 14.6	16.0	105 15 29.8	23 38 9.4	47.8		
23	45.0	44.8	. .	14.1	15.9	105 10 29.2	23 43 10.0	47.9		
24	. .	. .	. .	3.5	+ 23.3	111 40 25.8	17 13 13.4	33.8		Missed wire II.
25	. .	. .	. .	+ 3.0	— 23.3	248 19 33.6	17 13 12.8	33.8		
26	. .	. .	. .	— 2 27.6	— 30.3	62 47 3.0	66 6 36.2	39.2		
27	. .	42.7	. .	+ 2 26.1	+ 30.3	297 12 54.6	66 6 33.8	— 39.2		Defective division under Mic. D. C and D disregarded, and —0″.83 added to mean of A, B, E, F.
28	. .	42.1	. .	17.7	— 1 37.2	31 8 41.7	82 15 2.5	+ 36.2		
29	. .	. .	. .	+ 18.5	+ 16.4	105 35 35.6	23 18 3.6			
30										
31	42.5	39.5	. .	— 6.6	— 1 6.6	41 38 49.6	+ 87 14 49.6	+ 6.3		
32	41.5	48.1	29.870	1 0.7	+ 1 9.1	142 35 9.5	— 13 25 15.8		Ha.	
33	. .	. .	. .	3 27.8	+ 1 7.7	142 2 40.5				
34										
35										Circle reading on 5′ division.
36	44.0	45.5	. .	26 41.4	— 36 18.6	111 25 14.6	+ 17 28 24.6		N.	Circle reading on 0′ division.
37	44.0	39.1	. .	6 5.5	+ 20.0	108 39 12.6	23 14 26.6	— 37.8	Ha.	
38	. .	. .	. .	3 10.2	31.6	118 7 18.9	10 46 20.3	21.8		Exceedingly faint. Observation quite uncertain.
39	. .	. .	. .	— 6 41.7	31.6	118 3 47.4	10 49 51.8	20.8		
40	44.0	38.5	. .	+ 38.4	34.9	120 31 10.4	8 22 28.8	18.6		
41	. .	. .	. .	+ 2 38.5	+ 7.2	276 57 45.0	45 51 25.2	23.2		
42	. .	. .	. .	— 2 39.1	— 7.2	83 2 13.9	45 51 25.3	— 23.2		
43	43.5	38.5	. .	+ 22.5	+ 16.4	105 35 39.8	23 17 59.4			
44										
45	43.0	37.1	. .	— 1 21.1	17.4	106 18 56.3	+ 22 34 42.9	+ 11.6		
46	. .	. .	. .	34.2	1 26.1	145 25 51.7	— 16 32 12.5	30.4		
47	. .	. .	. .	1 5.5	2 23.8	157 41 18.8	28 47 39.6	37.3		
48	42.5	35.4	. .	— 1 46.3	+ 2 23.8	157 40 38.0	— 28 46 58.8	37.4		
49	. .	. .	. .	+ 2 17.7	— 7.0	263 17 12.6	+ 32 10 51.8	37.8		
50	42.0	36.0	. .	— 2 23.5	+ 7.0	96 42 47.4	+ 32 10 51.8	+ 37.8		
51	41.0	37.4	29.897	4 45.7	1 5.5	141 1 21.1	— 12 23 55.8			
52	. .	. .	. .	— 2 19.0	1 6.9	141 33 49.0				
53	35.5	20.5	. .	+ 3 31.3	36.2	120 34 9.0	+ 8 19 30.2	— 19.0		Missed wire VI. Observations poor. Night very bad.
54	33.0	19.8	. .	— 3 38.8	1 6.2	137 12 29.2	— 8 18 50.0	— 5.7		
55	. .	. .	. .	+ 26.7	+ 17.0	105 35 47.3	+ 23 17 51.9			
56	32.0	18.5	. .	+ 1 40.5	— 32 3.7	108 14 39.1	+ 20 39 0.1			
57										Nadir uncertain, owing to the tremendous gale which was blowing at the time.
58	29.0	16.0	. .	— 37.7	+ 1 29.7	145 25 54.4	— 16 32 15.2	+ 30.9		
59	13.0	6.3	29.855	41.4	+ 6 35.2	171 10 58.7	— 42 17 19.5	22.2	N.	
60										
61	. .	. .	. .	38.0	— 17 25.8	109 1 57.7	+ 19 36 49.5			Both limbs very much blurred, and uncertain by 3″ or 4″.
62	14.0	5.9	. .	— 27.8	— 17 52.2	109 31 41.7				
63	19.0	15.3	29.807	+ 38.4	+ 1 11.3	140 51 49.3	— 11 41 59.2		Ha.	Observed through clouds. Sun's limb faint. Observation uncertain.
64	. .	. .	. .	— 1 42.5	1 9.9	140 19 27.5				
65	19.5	13.5	. .	— 40.7	+ 1 32.5	145 25 51.3	— 16 32 12.1	+ 31.2		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ' ''	''	''	''	''	''	''	r.	r.	in.
Feb. 18	1	Nadir	. .	5	. .	269 59 57.8	66.9	61.9	64.7	58.8	53.0	60.52	29.809	.824	. .
	2	Moon N. L.	. .	5	III-VII.	111 19 57.8	68.4	62.5	65.3	58.9	53.2	61.02	33.804	.810	30.488
	3	Venus, centre	. .	5	I-IX.	149 44 57 1	65.5	63.9	65.7	57.3	50.5	60.00	32.147	.184	30.575
19	4	Sun N. L.	. .	4	I-IV.	139 54 57.6	67.1	62.8	64.5	60.2	52.5	60.78	25.969	.992	. .
	5	Sun S. L.	. .	4	VI-IX.	140 29 57.9	68.3	63.5	65.5	61.1	53.0	61.55	31.066	.094	30.520
	6	Nadir 5h. 15m.	. .	3	. .	269 59 57.5	63.2	60.4	60.6	58.6	52.9	58.87	29.809	.824	. .
	7	Uranus	. .	5	I-IX.	105 34 57.9	68.2	64.0	64.6	62.6	56.2	62.25	28.820	.818	30.352
	8	α Canis Majoris	. .	5	I-IX.	145 24 56.6	64.4	60.4	59.9	59.0	53.1	58.90	31.072	.103	31.340
	9	γ Canis Majoris	. .	5	I-IX.	144 19 58.3	65.8	62.3	61.9	61.1	53.6	60.50	32.648	.656	. .
	10	B. A. C. 2326	. .	3	1-5.	46 14 58.4	66.0	64.0	63.6	61.2	55.4	61.43	30.139	.165	. .
	11	β Geminorum, (Ref.)	. .	4	VI-IX.	259 24 57.5	63.9	60.1	63.2	58.9	55.7	59.88	25.041	.093	. .
	12	λ Ursæ Minoris, S. P.	. .	4	2-1.	37 49 58.5	65.7	64.1	65.3	61.9	55.7	61.87	31.634	.641	30.390
	13	Moon N. L.	. .	4	I-IV.	114 4 57.8	67.0	62.9	63.9	60.4	54.7	61.12	31.922	.769	. .
	14	Moon S. L.	. .	4	VI-IX.	114 34 56.2	65.1	61.1	62.2	57.9	52.8	59.22	31.750	.922	30.315
	15	Venus S. L.	. .	5	I-IX.	149 34 57.3	64.9	61.5	62.0	59.0	53.0	59.62	29.628	.638	30.218
	16	Venus N. L.	. .	4	II-VIII.	" " "	"	"	"	"	"	"	30.102	.133	. .
20	17	Sun S. L.	. .	4	I-IV.	140 9 57.2	60.4	53.6	60.9	56.3	55.3	57.28	33.362	.389	30.196
	18	Sun N. L.	. .	4	VI-IX.	139 39 57.0	62.4	53.3	57.8	57.5	53.1	56.85	37.899	.917	. .
	19	Nadir 0h. 19m.	. .	3	. .	269 59 56.9	58.3	55.0	53.3	57.3	53.1	55.65	29.668	.686	. .
22	20	55 Camelopardali, (Ref.)	. .	2	1, 5.	299 59 59.8	61.8	60.6	53.1	60.5	57.9	58.95	33.820	.830	. .
	21	55 Camelopardali	. .	4	VI-IX.	59 59 61.0	63.6	64.0	59.0	63.8	63.8	62.53	26.025	.000	29.833
	22	κ Cephei, S. P.	. .	3	VII-III.	26 14 61.0	64.8	63.9	59.2	63.4	58.7	61.83	32.619	.664	. .
	23	B. A. C. 7124, S. P.	. .	5	VII-III.	20 59 60.6	63.5	63.1	60.8	63.5	60.0	61.92	29.150	.200	29.832
	24	σ Ursæ Majoris	. .	3	IV-VI.	61 14 60.6	64.4	63.4	59.3	63.7	63.4	62.47	33.190	.210	. .
	25	Nadir 9h. 10m.	. .	4	. .	269 59 60.8	61.3	60.8	56.3	60.7	59.8	59.95*d*	29.882	.897	. .
	26	1 (Hev.) Draconis	. .	3	1-5.	46 59 59.5	61.4	60.9	57.0	61.7	59.2	59.95	31.151	.177	. .
	27	1 (Hev.) Draconis (Ref.)	. .	4	VI-IX.	312 59 60.2	60.9	62.5	53.6	61.4	57.4	59.33	28.424	.625	29.834
	28	B. A. C. 3528	. .	3	1-5.	45 39 60.2	62.5	63.0	59.0	61.8	60.4	61.15	30.045	.067	29.845
	29	B. A. C. 7851, S. P.	. .	3	5-1.	34 19 59.8	63.4	62.9	59.6	61.0	60.6	61.22	28.852	.865	. .
	30	Moon S. L.	. .	5	I-IX.	126 4 59.4	61.9	59.8	54.7	59.9	57.5	58.87	25.975	.990	29.844
	31	Venus, centre	. .	4	VI-IX.	149 4 58.0	61.8	58.9	57.8	58.0	55.1	58.27	30.072	.127	29.946
23	32	Sun N. L.	. .	4	I-IV.	138 34 58.1	62.0	56.8	55.9	59.8	58.0	58.43	38.326	.355	. .
	33	Sun S. L.	. .	4	VI-IX.	139 4 57.3	60.3	55.1	53.9	58.3	55.7	56.77	33.768	.776	29.916
	34	Nadir 22h. 36m.	. .	3	. .	269 59 58.9	57.3	55.4	52.0	57.3	57.3	56.37*d*	29.757	.774	. .
	35	δ Ursæ Minoris	. .	5	III-VII.	42 19 60.9	64.4	62.5	59.6	63.1	62.1	62.10	32.491	.498	29.761
	36	α Lyræ	. .	5	I-IX.	90 14 60.0	63.2	60.4	56.8	60.6	61.1	60.35	31.306	.312	. .
	37	Venus, centre	. .	2	I, IX.	148 55 59.6	60.5	57.4	55.4	58.2	57.1	58.03	32.346	.387	29.772
	38	Mercury	. .	1	VII½.	147 24 60.4	61.8	59.5	54.8	58.5	58.9	58.98	24.110	.149	29.784
24	39	Sun N. L.	. .	3	I-IV.	138 9 60.4	62.5	57.0	55.0	61.0	60.3	59.37	32.583	.592	. .
	40	Sun S. L.	. .	3	VI-VIII.	138 39 61.2	63.0	57.4	55.6	60.6	60.3	59.68	28.194	.223	29.778
	41	ε Ursæ Minoris, S. P.	. .	3	VI.	31 9 60.9	62.0	61.9	59.5	61.0	61.0	61.05	29.274	.339	. .
	42	Nadir 5h. 30m.	. .	4	. .	269 59 60.6	59.9	59.2	55.1	58.8	58.8	58.73	29.798	.808	. .
	43	ε Draconis, S. P.	. .	3	VI-IV.	17 44 61.1	62.2	62.9	59.4	60.9	59.4	60.98	28.647	.656	29.925
	44	α Orionis	. .	4	I-IV.	121 29 61.5	62.8	60.1	57.5	59.5	60.2	60.27	28.978	.978	. .
	45	α Orionis, (Ref.)	. .	2	VI, VIII.	238 29 60.5	59.2	60.9	57.1	61.0	62.8	60.25	30.784	.804	. .
	46	35 Draconis, S. P.	5	5	VII-III.	25 54 60.3	62.8	62.4	58.6	59.1	59.7	60.48	31.517	.557	. .
	47	Lacaille 2190	7.0	5	III-VII.	152 44 60.7	60.9	61.4	57.5	58.5	59.6	59.77	35.815	.826	. .
	48	Lacaille 2208	7.2	3	III-VII.	" " "	"	"	"	"	"	"	13.313	.342	. .
	49	δ Ursæ Minoris, S. P.	4.5	3	V-1.	35 29 60.9	61.7	61.9	59.4	60.1	61.0	60.83	27.881	.895	. .
	50	B. A. C. 2095	5.8	3	IV-VI.	49 9 60.7	62.9	62.3	60.1	62.4	63.0	61.90	25.632	.617	29.946
	51	51 Cephei	. .	3	1.	41 39 61.6	64.3	63.8	61.2	63.2	63.3	62.90	30.111	.133	. .
	52	α Canis Majoris	. .	1	V.	145 24 61.5	62.2	60.5	56.0	60.2	60.1	60.08	30.896	.910	. .
	53	50 Draconis, S. P.	5	5	VII-III.	24 9 61.1	63.1	62.9	60.3	60.3	60.4	61.35	26.062	.114	. .
	54	4 (Hev.) Draconis	. .	3	III-IV.	50 29 60.3	65.1	63.5	63.2	60.4	61.2	62.28	25.243	.214	. .
	55	Moon S. L.	. .	5	II-VIII.	134 9 60.1	64.9	62.0	62.1	59.2	59.5	61.30	28.413	.430	29.976
	56	Nadir 12h. 20m.	. .	5	. .	269 59 61.9	64.9	63.4	62.9	59.6	59.5	62.03	29.903	.917	. .
25	57	Venus, centre	. .	4	VI-IX.	148 29 60.9	63.4	62.0	60.0	57.3	56.2	59.97	31.045	.083	29.810
26	58	Sun S. L.	. .	4	I-IV.	137 54 60.9	65.5	61.2	59.8	60.2	58.1	60.95	27.282	.313	. .
	59	Sun N. L.	. .	4	VI-IX.	137 24 60.1	65.0	60.6	59.9	59.9	57.6	60.52	31.740	.746	29.871
	60	Lacaille 1540	. .	1	V.	154 49 59.5	62.4	61.1	59.0	58.0	57.5	59.58	29.164	.191	30.027
	61	ι Aurigæ	. .	5	III-VII.	95 54 60.2	64.3	63.1	60.4	60.2	60.6	61.47	33.660	.656	. .
	62	ε Leporis	. .	5	I-IX.	151 24 59.9	62.0	62.9	59.9	58.5	56.3	59.92	28.984	.013	. .
	63	Uranus	. .	2	II, VI.	105 34 59.4	63.0	61.3	59.6	58.6	59.7	60.27	30.821	.810	. .
	64	ψ^1 Draconis, S. P.	5	5	VII-III.	21 9 59.6	63.4	62.2	63.1	58.0	57.8	60.68	31.947	.988	30.054

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1									Ha.	
2	18.0	12.5	29.807	− 2 5.4	− 4 16.7	111 13 38.9	+ 17 40 0.3			
3	12.7	10.9	29.860	− 1 12.8	+ 1 44.0	149 45 31.2	− 20 51 52.0		N.	Very unsteady.
4	. .	. .	. .	+ 2 1.2	1 9.1	139 58 11.0	− 11 20 42.9			
5	19.6	15.6	. .	− 38.7	1 10.4	140 30 33.2				Image excessively bad. Result will be very [uncertain.
6										Image vibrating.
7	20.0	15.0	. .	+ 32.6	17.6	105 35 52.4	+ 23 17 46.8			Image undulating.
8	19.3	14.5	. .	− 38.9	1 31.9	145 25 51.9	− 16 32 12.7	+ 31.3		
9	. .	. .	. .	1 27.6	+ 1 28.3	144 20 1.2	− 15 26 22.0	37.7		
10	. .	. .	. .	− 9.6	− 1 0.8	46 13 51.0	+ 82 39 48.2	17.1		
11	. .	. .	. .	+ 2 29.4	11.8	259 27 17.4	28 20 56.6	+ 42.6		
12	18.5	13.4	. .	− 55.8	1 21.8	37 47 44.2	88 54 4.9	− 39.8		
13	. .	. .	. .	59.8	21 21.2	113 42 40.1	+ 14 56 14.8			Blurred.
14	18.0	13.2	. .	− 1 4.6	− 21 45.8	114 12 8.8				Fair observation.
15	21.0	22.1	29.825	+ 5.9	+ 1 39.6	149 36 45.1	− 20 42 58.2		Ha.	
16	. .	. .	. .	− 9.6	1 39.6	149 36 29.6				
17	27.5	32.4	. .	1 51.9	1 6.2	140 9 11.5	− 10 59 20.6			
18	. .	. .	. .	4 13.5	1 4.8	139 36 48.1				
19										
20	. .	. .	29.895	− 2 3.3	+ 34.2	299 58 29.8	+ 68 52 9.0	+ 42:0	N.	
21	40.5	39.0	. .	+ 2 2.0	− 34.2	60 1 30.3	68 52 9.0	+ 42.0		
22	. .	. .	. .	− 1 26.8	1 59.8	26 11 35.2	77 17 55.9	− 42.7		
23	40.8	39.2	. .	+ 21.8	2 33.2	20 57 20.5	72 4 11.2	− 43.7		
24	. .	. .	. .	− 1 43.9	32.6	61 12 45.9	67 40 53.3	+ 63.6		
25										
26	. .	. .	. .	− 40.2	− 55.4	46 58 24.3	81 55 14.9	68.0		
27	41.0	38.0	. .	+ 39.8	+ 55.4	313 1 34.5	81 55 13.8	68.0		
28	40.8	38.1	. .	− 5.4	− 58.0	45 38 57.7	83 14 41.5	+ 83.6		
29	. .	. .	. .	+ 32.3	1 26.8	34 19 6.7	85 25 27.4	− 84.2		
30	40.8	37.4	. .	+ 2 2.4	− 45 50.7	125 21 10.5	+ 3 32 28.7			
31	40.0	44.2	. .	− 7.3	+ 1 32.0	149 6 22.9	− 20 12 43.7		Ha.	
32	. .	. .	. .	4 25.1	58.3	138 31 31.6	− 9 54 3.9			
33	46.5	57.5	. .	2 1.6	+ 59.5	139 3 54.6				
34										
35	47.0	46.8	. .	1 21.6	− 1 3.9	42 17 36.6	+ 86 36 2.6	+ 5.3	N.	
36	. .	. .	. .	44.4	+ 0.2	90 14 16.1	+ 38 39 23.1	− 2.1		
37	50.7	53.9	. .	− 1 18.1	1 28.9	148 56 8.8	− 20 2 29.6			
38	52.0	54.5	29.850	+ 2 58.7	1 22.8	147 29 20.4	18 35 41.2			Glimpse between clouds.
39	. .	. .	. .	− 1 25.9	57.3	138 9 30.7	− 9 32 0.6			Missed wire II.
40	54.2	55.5	. .	+ 51.0	+ 58.4	138 41 49.0				Cloudy; undulating.
41	. .	. .	. .	16.0	− 1 36.8	31 8 40.2	+ 82 15 1.0	+ 37.6		Middle reading at wire VI.
42										
43	49.0	44.0	. .	37.4	− 3 1.7	17 42 36.6	68 48 57.4	22.9		
44	. .	. .	. .	+ 27.4	+ 36.1	121 31 3.7	7 22 35.5	5.5		
45	. .	. .	. .	− 29.9	− 36.1	238 28 54.3	7 22 33.5	5.5		Blurred. Wt. =2—.
46	. .	43.8	. .	53.5	− 2 0.7	25 52 6.2	+ 76 58 27.0	15.1		
47	. .	. .	. .	− 3 7.3	+ 1 53.7	152 43 46.1	− 23 50 6.9	21.9		
48	. .	. .	. .	+ 8 37.2	+ 1 54.7	152 55 31.6	− 24 1 52.4	23.2		Perhaps 1 rev. too great.
49	. .	. .	. .	1 1.3	− 1 22.4	35 29 39.7	+ 86 36 0.5	+ 5.6		
50	48.2	43.0	. .	+ 2 12.6	50.9	49 11 23.6	79 42 15.6	− 0.5		
51	. .	. .	. .	− 8.9	− 1 6.3	41 38 47.7	+ 87 14 51.5	+ 3.7		At and near wire 1.
52	. .	. .	. .	− 33.2	+ 1 25.6	145 25 52.4	− 16 32 13.2	+ 31.7		
53	. .	40.4	. .	+ 1 57.1	− 2 11.3	24 9 47.1	+ 75 16 7.9	− 8.3		
54	. .	. .	. .	2 25.3	48.9	50 31 38.6	+ 78 22 0.6	+ 99.1		
55	40.0	33.8	. .	+ 44.5	− 52 28.9	134 3 16.9	− 5 9 37.7			Wires III and VII omitted. Circle reading appears 45′ too small.
56										
57	43.0	41.0	29.810	− 39.9	+ 1 30.0	148 30 50.0	− 19 37 10.8			
58	. .	. .	29.800	+ 1 17.9	58.8	137 57 17.7	8 47 28.3			
59	44.4	42.2	. .	− 1 1.0	57.7	137 24 57.2				Barometer undulating several hundredths of an inch.
60	43.3	32.8	29.790	+ 18.8	2 8.0	154 52 26.3	− 25 58 47.1	− 13.1		
61	. .	. .	. .	− 1 38.2	6.2	95 56 45.8	+ 32 56 53.4	26.6		Whole rev. recorded 33.
62	. .	. .	. .	+ 24.4	1 50.6	151 27 14.9	− 22 33 35.7	− 4.1		Micrometer readings by Mr. Penniman.
63	. .	. .	. .	− 32.0	+ 16.8	115 34 45.0	+ 23 18 54.3			Micrometer readings by Mr. Penniman.
64	39.3	32.0	. .	− 1 8.9	− 2 35.5	21 6 16.2	+ 72 12 37.0	+ 20.3		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. Feb. 26	1	ξ Draconis, S. P.	. .	4	IV–I.	5 54 56.6	60.5	60.0	59.3	54.1	54.7	57.53	27.780	.808	. .
	2	B. A. C. 1995	6.5	5	III–VII.	155 54 60.3	63.5	62.4	61.4	58.3	56.0	60.32	21.577	.584	. .
	3	Lacaille 2177	7.5	1	V.	“ “ “	“	“	“	“	“	“	32.798	.805	. .
	4	Lacaille 2208	7.2	5	III–VII.	152 49 60.6	64.0	64.4	62.5	58.8	58.4	61.45	23.035	.060	. .
	5	B. A. C. 2095	5.5	5	III–VII.	49 9 59.8	65.2	63.0	64.5	59.5	61.1	62.18	25.542	.505	30.058
	6	α Canis Majoris	. .	5	I–IX.	145 19 58.6	63.0	60.2	59.0	57.4	56.2	59.07	21.276	.311	. .
	7	Nadir 7h. 20m.	. .	3	. .	269 59 59.8	63.2	61.3	61.5	57.4	56.9	60.02	29.770	.787	. .
	8	Venus, centre	. .	5	III–VII.	148 14 60.9	65.3	62.9	63.1	58.0	55.0	60.87	27.202	.232	30.256
27	9	Sun N. L.	. .	4	I–IV.	137 4 60.0	66.2	61.4	61.5	60.3	58.1	61.25	36.433	.453	30.240
	10	Sun S. L.	. .	4	VI–IX.	137 34 61.9	67.9	62.2	62.8	61.9	59.0	62.62	32.138	.167	. .
	11	Nadir 1h. 18m.	. .	3	. .	269 59 58.4	59.8	58.0	56.7	57.9	57.5	58.05*d*	29.782	.798	. .
	12	α^1 Geminorum	. .	5	I–IX.	96 44 58.4	66.1	62.5	61.2	63.0	60.5	61.95	34.317	.326	. .
	13	α^2 Geminorum	. .	4	II–VIII.	“ “ “	“	“	“	“	“	“	34.404	.411	30.100
	14	α Canis Minoris	. .	5	III–VII.	123 19 58.1	63.4	59.8	58.6	58.5	57.1	59.25	31.765	.769	. .
	15	6 Cancri	. .	5	III–VII.	100 44 58.5	61.1	58.0	57.1	58.2	57.0	58.32	33.122	.144	. .
	16	ρ Argus	. .	5	III–VII.	152 49 58.1	62.4	61.0	59.0	58.5	57.4	59.40	35.766	.774	. .
	17	λ Cancri	. .	5	III–VII.	104 24 58.0	63.4	60.0	59.1	59.5	57.1	59.52	26.561	.562	30.080
	18	Nadir 8h. 22m.	. .	3	. .	269 59 59.0	63.2	59.9	60.0	58.9	58.8	59.97*d*	29.862	.873	. .
Mar. 1	19	Moon S. L.	. .	2	VIII, IX.	150 29 60.2	63.4	63.1	63.6	57.1	56.7	60.68	25.195	.229	30.009
	20	Venus	. .	5	I–IX.	147 19 59.9	65.8	64.0	64.4	57.5	56.8	61.40	31.970	.996	30.041
	21	Nadir 22h. 45m.	. .	2	. .	269 59 60.0	65.4	62.4	64.7	58.4	58.8	61.62	29.912	.926	. .
2	22	Sun N. L.	. .	4	I–IV.	135 29 59.5	67.1	63.8	63.8	60.7	58.4	62.22	28.893	.912	. .
	23	Sun S. L.	. .	4	VI–IX.	135 59 58.6	67.0	63.1	63.1	60.4	57.2	61.57	24.405	.424	30.060
	24	α Canis Majoris, (Ref.)	. .	3	II–VIII.	214 34 59.6	61.5	63.0	62.8	56.4	57.9	60.20	28.823	.837	30.139
	25	50 Draconis, S. P.	. .	3	VI–IV.	24 9 59.5	64.5	63.4	64.6	59.4	58.0	61.57	26.052	.086	. .
	26	B. A. C. 2326	.	3	1–5.	46 14 59.8	65.2	64.4	63.8	61.0	59.2	62.23	30.364	.385	. .
	27	α Canis Minoris, (Ref.)	. .	4	I–IV.	236 39 59.3	62.4	63.3	62.2	59.5	59.4	61.02	27.961	.965	. .
	28	α Canis Minoris	. .	4	VI–IX.	123 19 59.1	64.0	61.7	61.5	56.8	55.9	59.83	31.810	.832	30.158
	29	B. A. C. 2606	7	5	III–VII.	81 9 59.5	65.9	63.9	63.6	59.7	60.0	62.10	30.247	.266	.
	30	O. Arg. N. 8459	8	1	V.	81 54 59.5	64.3	62.0	62.8	59.8	58.4	61.13	30.360	.382	. .
	31	Nadir 8h. 5m.	. .	7	. .	269 59 59.5	62.5	60.8	61.6	57.9	56.7	59.83	29.841	.853	. .
	32	Iris	8	1	V.	136 44 58.5	66.2	62.2	62.6	58.5	56.4	60.73	26.100	.125	. .
	33	Anon. 11h. 48m. 22s.	10	1	IX.	“ “ “	“	“	“	“	“	“	26.018	.069	30.231
	34	Venus, centre	. .	5	III–VII.	147 4 59.5	64.5	61.2	63.2	57.3	54.8	60.08	33.271	.301	30.400
	35	Mercury, centre	. .	5	III–VII.	145 14 59.0	66.9	61.2	62.8	59.1	56.3	60.88	31.352	.377	30.404
3	36	Sun S. L.	. .	4	I–IV.	135 39 59.0	67.5	62.1	62.9	61.6	58.0	61.85	30.170	.202	30.380
	37	Sun N. L.	. .	4	VI–IX.	135 9 60.4	59.0	63.1	64.1	62.7	59.0	61.38	34.803	.811	. .
	38	Nadir	. .	3	. .	269 59 60.7	64.9	60.7	62.9	59.9	59.0	61.35	29.925	.935	. .
	39	Polaris	. .	5	. .	40 19 61.8	67.4	64.5	67.2	63.0	62.2	64.35	31.110	.058	30.308
	40	Dorpat 900	5	5	III–VII.	124 14 60.0	65.1	61.1	60.9	61.1	60.1	61.38	32.550	.558	30.260
	41	11 Monocerotis	. .	1	IV.	135 49 59.7	65.2	61.3	60.9	61.0	58.2	61.05	30.338	.349	. .
	42	11 Monocerotis, comp.	. .	1	V.	“ “ “	“	“	“	“	“	“	30.150	.167	. .
	43	α Canis Majoris	. .	5	III–VII.	145 24 59.9	64.8	61.2	60.0	60.3	58.0	60.70	30.978	.988	30.260
	44	α Canis Minoris	. .	5	III–VII.	123 19 59.8	64.6	61.1	61.1	58.2	57.7	60.42	31.841	.842	30.250
	45	B. A. C. 2606	6	5	III–VII.	81 9 60.8	67.4	63.9	64.0	62.1	61.8	63.33	30.359	.369	. .
	46	O. Arg. N. 8445	9	1	V.	81 49 61.2	66.4	63.9	63.5	62.2	61.0	63.03	42.291	.310	. .
	47	O. Arg. N. 8459	7	3	IV–VI.	“ “ “	“	“	“	“	“	“	20.838	.837	30.250
	48	Nadir 9h. 10m.	. .	3	. .	269 59 59.3	64.3	60.9	61.8	58.5	57.6	60.40	29.882	.893	. .
	49	Iris	8.5	5	III–VII.	136 39 59.0	66.9	61.9	63.1	59.3	56.9	61.18	25.862	.865	30.182
4	50	Sun S. L.	. .	4	I–IV.	135 14 58.5	65.4	59.6	61.0	62.2	60.2	61.15	26.527	.541	. .
	51	Sun N. L.	. .	4	VI–IX.	134 44 58.4	65.5	58.9	60.3	61.2	59.1	60.57	30.849	.852	29.955
	52	Nadir 23h. 15m.	. .	3	. .	269 59 59.4	59.9	56.5	58.2	58.0	60.2	58.70	29.826	.838	. .
5	53	O. Arg. S. 7882	7	5	III–VII.	153 4 60.8	63.1	61.8	61.8	58.5	60.8	61.13	28.932	.940	29.660
	54	15 Argus	. .	5	III–VII.	152 49 60.8	64.2	62.6	62.0	59.1	60.2	61.48	35.766	.770	. .
	55	O. Arg. S. 8072	. .	1	V.	“ “ “	“	“	“	“	“	“	26.805	.806	. .
	56	Dorpat 1243	. .	4	I, IV, VI, IX	121 49 61.1	65.3	62.0	61.6	59.3	60.3	61.60	34.211	.226	29.664
	57	Dorpat 1243, comp.	. .	3	II–VIII.	“ “ “	“	“	“	“	“	“	34.532	.540	. .
	58	Dorpat 1270	7	5	III–VII.	130 59 60.9	65.4	59.2	59.9	58.1	60.0	60.58	30.618	.623	. .
	59	Dorpat 1294	7.5	5	I–IX.	136 24 61.3	67.2	62.3	61.1	60.9	61.4	62.37	39.251	.273	29.664
	60	Dorpat 1294, comp.	7.5	4	II–VIII.	“ “ “	“	“	“	“	“	“	39.435	.452	. .
	61	Anon. 9h. 2m. 39s.	9	1	IX.	152 9 61.7	65.0	63.0	62.2	60.0	60.7	62.10	24.421	.481	. .
	62	Carrington 1381	. .	5	1–5.	46 59 60.2	63.8	62.0	62.9	60.2	61.5	61.77	31.298	.316	29.666
	63	Nadir 9h. 27m.	. .	3	. .	269 59 60.0	64.7	60.5	61.6	58.8	59.4	60.88*d*	29.897	.901	. .
	64	Iris	. .	1	VII.	136 29 60.6	67.1	61.7	62.1	61.0	60.2	62.12	26.338	.366	29.662

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.790	+ 1 2.1	— 8 55.1	5 47 4.5	+ 56 53 25.3	+ 17.2	N.	
2	. .	. .	. .	+ 4 17.1	+ 2 15.3	156 1 32.7	— 27 7 53.5	21.7		
3	. .	. .	. .	— 1 34.5	2 14.7	155 55 40.5	27 2 1.3	22.0		
4	. .	. .	. .	+ 3 30.9	+ 1 58.0	152 55 30.3	— 24 1 51.1	+ 23.4		Whole rev. recorded 22. See Feb. 21, 1865.
5	38.0	31.8	. .	2 14.3	— 52.3	49 11 24.1	+ 79 42 15.1	— 0.8		
6	. .	. .	. .	4 25.7	+ 1 27.7	145 25 52.4	— 16 32 13.2	+ 31.9		
7										
8	39.0	39.8	29.867	+ 1 22.6	1 31.0	148 17 54.4	19 24 15.2		Ha.	Very unsteady.
9	45.0	47.0	. .	— 3 26.4	57.1	137 2 31.9	— 8 25 1.1			
10	. .	. .	. .	1 12.1	58.2	137 34 48.7				Very tremulous and unsteady.
11										
12	. .	. .	. .	2 19.7	7.0	96 42 49.2	+ 32 10 50.0	36.7		
13	45.0	39.0	. .	2 22.4	7.0	96 42 46.5	32 10 52.7	36.7		
14	. .	. .	. .	59.6	39.3	123 19 38.9	5 34 0.3	46.0		
15	. .	. .	. .	1 42.7	11.3	100 43 26.9	+ 28 10 12.3	48.7		
16	. .	. .	. .	— 3 5.1	1 56.0	152 48 50.3	— 23 55 11.1	61.2		
17	44.5	37.4	. .	+ 1 43.6	+ 15.4	104 26 58.5	+ 24 26 40.7	55.6		
18										
19	40.5	24.8	. .	+ 2 25.3	— 65 9.0	149 27 17.0	— 20 33 37.8		N.	
20	35.7	32.8	. .	— 1 6.7	+ 1 28.3	147 20 23.0	18 26 43.8			
21										
22	. .	. .	. .	+ 29.9	54.9	135 31 27.0	6 53 58.3			
23	41.0	36.8	. .	2 50.6	+ 56.0	136 3 48.1				This limb blurred.
24	41.3	35.0	. .	32.3	— 1 27.4	214 34 5.1	— 16 32 15.6	+ 32.3		
25	. .	34.7	. .	+ 1 58.5	2 13.8	24 9 46.2	+ 75 16 7.0	— 7.2		
26	. .	. .	. .	— 16.2	57.9	46 13 48.2	82 39 51.1	+ 14.5		
27	. .	. .	. .	+ 59.6	— 39.8	236 40 20.8	5 34 0.1	46.3		
28	40.5	33.9	. .	— 1 1.8	+ 39.8	123 19 37.8	5 34 1.4	46.3		
29	. .	. .	. .	12.5	— 9.4	81 9 40.2	47 43 59.0	39.4		
30	. .	. .	. .	— 16.1	— 8.6	81 54 36.4	+ 46 59 2.8	41.7		
31										Very good.
32	. .	. .	. .	+ 1 57.2	+ 1 5.0	136 48 2.9	— 7 54 23.7			
33	37.0	30.3	. .	+ 1 59.0	1 5.0	138 48 4.7	7 54 25.5	+ 96.6		
34	35.5	35.1	29.896	— 1 46.7	1 28.1	147 4 41.4	18 11 2.2		Ha.	Blurred and unsteady.
35	38.0	36.6	. .	46.4	1 21.2	145 15 35.6	16 21 56.4			
36	42.0	38.9	. .	9.6	55.6	135 40 47.8	— 6 30 55.6			Observed semi-diameter suspiciously large.
37	. .	. .	. .	2 34.0	+ 54.5	135 8 21.8				
38										
39	43.0	42.7	29.892	36.5	— 1 10.3	40 18 17.5	+ 88 35 21.7	— 94.6		At intervals of 30s. from 1h. 14m. 43s. to 1h. 16m. 43s.
40	42.5	37.5	29.877	1 24.0	+ 41.0	124 14 18.3	+ 4 39 20.9	+ 18.1		
41	. .	. .	. .	14.8	1 2.1	135 50 48.3	— 6 57 9.1	23.8		
42	. .	. .	. .	9.1	1 2.1	135 50 54.0	6 57 14.8	23.8		
43	42.0	36.0	. .	34.8	1 27.5	145 25 53.4	— 16 32 14.2	32.7		
44	41.0	34.9	. .	1 1.6	+ 39.8	123 19 38.6	+ 5 34 0.6	46.3		
45	. .	. .	. .	15.4	— 9.4	81 9 38.5	47 44 0.7	39.3		
46	. .	. .	. .	— 6 29.6	8.8	81 43 24.6	47 10 14.6	41.0		
47	40.5	34.2	. .	+ 4 43.2	— 8.6	81 54 37.6	+ 46 59 1.6	41.5		
48										
49	37.0	30.6	. .	2 5.7	+ 1 4.7	136 43 11.5	— 7 49 32.3			
50	. .	. .	. .	+ 1 44.5	52.2	135 17 37.8	6 7 50.3		N.	Very good observations.
51	47.0	53.6	. .	— 30.5	51.2	134 45 21.2				
52										
53	43.0	39.1	. .	+ 29.4	1 55.6	153 7 26.1	24 13 46.9	61.1	Ha.	
54	. .	. .	. .	— 3 4.6	1 54.1	152 48 50.9	23 55 11.7	62.4		
55	. .	. .	. .	+ 1 36.2	1 54.5	152 53 32.1	— 23 59 52.9	62.8		
56	44.0	38.4	. .	— 2 16.3	36.6	121 48 21.9	+ 7 5 17.3	64.7		Double.
57	. .	. .	. .	2 26.1	36.5	121 48 12.0	+ 7 5 27.2	64.7		
58	. .	. .	. .	23.4	51.3	131 0 28.4	— 2 6 49.2	69.4		
59	43.0	38.3	. .	4 54.4	1 1.8	136 21 9.7	7 27 30.5	73.2		Close double.
60	. .	. .	. .	— 5 00.0	1 1.8	136 21 4.1	7 27 24.9	73.2		
61	. .	. .	. .	+ 2 49.1	+ 1 51.7	152 14 42.9	— 23 21 3.7	78.6		
62	43.0	37.6	. .	— 45.1	— 55.1	46 58 21.5	+ 81 55 17.7	+ 64.6		
63										
64	42.0	36.2	. .	+ 1 50.0	+ 1 2.5	136 32 54.6	— 7 39 15.4			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. Mar. 6	1	Venus	. .	5	III-VII.	145 54 58.2	64.7	61.2	61.6	57.5	57.8	60.17	29.290	.311	29.740
	2	Mercury	. .	5	III-VII.	143 34 58.1	63.5	60.7	60.9	57.0	56.6	59.47	27.542	.553	29.740
7	3	Sun N. L.	. .	4	I-IV.	133 34 59.2	65.8	60.0	60.9	59.4	60.4	60.95	30.345	.367	. .
	4	Sun S. L.	. .	4	VI-IX.	134 4 57.5	63.2	59.1	59.3	58.0	58.4	59.25	26.070	.082	29.744
	5	Uranus	. .	5	I-IX.	105 34 59.3	65.1	60.9	60.8	61.6	61.4	61.52	28.859	.850	. .
	6	α Canis Majoris, (Ref.)	. .	5	I-IX.	214 34 58.6	57.9	58.9	58.4	55.2	59.2	58.03	28.862	.857	29.727
	7	B. A. C. 2326	. .	3	IV-V.	46 14 59.9	63.9	62.0	61.4	61.2	61.2	61.60	30.443	.439	. .
	8	δ Draconis, S. P.	3.8	3	III-I.	16 19 59.6	62.2	61.9	60.1	58.8	58.0	60.10	25.740	.796	29.735
	9	Nadir 8h.	. .	3	. .	269 59 59.9	62.0	60.2	59.3	58.9	59.0	59.88	29.839	.842	. .
	10	O. Arg. S. 11311	8.8	1	V.	158 34 60.2	64.9	63.0	63.5	59.5	57.6	61.45	32.588	.595	29.737
	11	τ Cassiopeæ, S. P.	. .	5	III-VII.	6 54 60.3	65.1	63.6	64.5	58.9	57.8	61.70	29.634	.652	. .
	12	γ Ursæ Majoris	. .	2	III, IV.	74 24 59.9	65.6	64.5	64.7	60.9	61.5	62.85	25.821	.799	. .
	13	γ Ursæ Majoris, (Ref.)	. .	4	VI-IX.	285 29 60.4	62.3	61.9	60.8	59.4	59.5	60.72	24.361	.428	. .
	14	o Virginis	. .	4	I-IV.	119 24 59.7	64.8	60.2	60.9	57.5	57.9	60.17	31.690	.672	. .
	15	o Virginis, (Ref.)	. .	4	VI-IX.	240 34 59.8	63.2	62.1	62.7	59.9	61.6	61.55	28.035	.065	29.736
	16	δ Ursæ Majoris, (Ref.)	. .	4	I-IV.	288 54 59.8	63.8	61.2	60.1	58.5	57.2	60.10	33.585	.616	. .
	17	δ Ursæ Majoris	. .	4	IV-IX.	71 4 59.0	64.6	62.5	63.5	60.4	62.7	62.12	24.155	.149	. .
	18	Nadir 12h. 20m.	.	3	. .	269 59 58.9	63.1	60.1	61.4	58.2	57.8	59.93*d*	29.843	.846	. .
8	19	O. Arg. S. 9931	7	1	V.	159 14 57.0	61.9	59.9	60.7	56.6	56.3	58.73	33.621	.626	29.968
	20	ε Leonis	. .	5	III-VII.	104 29 57.7	64.7	60.4	61.8	59.0	58.2	60.30	30.438	.450	. .
	21	O. Arg. S. 10236	7.5	1	V.	158 19 60.8	66.7	62.8	63.8	59.6	58.1	61.97	29.625	.630	. .
	22	α Leonis	. .	5	III-VII.	116 14 57.9	64.3	59.1	60.0	57.7	57.9	59.48	28.740	.739	29.976
	23	O. Arg. S. 10539	7	1	V.	151 9 58.1	62.9	60.6	60.4	57.7	56.5	59.37	30.804	.805	. .
	24	O. Arg. S. 10543	7	1	VIII.	" " "	"	"	"	"	"	"	15.618	.655	. .
	25	Lacaille 4286	6	1	VII.	157 19 58.5	63.3	60.0	57.0	57.3	62.0	59.68	26.272	.312	29.986
	26	α Ursæ Majoris, (Ref.)	. .	4	I-IV.	293 34 58.8	63.6	61.1	60.5	58.0	58.0	60.00	30.283	.333	. .
	27	α Ursæ Majoris	. .	4	VI-IX.	66 24 58.3	64.0	62.2	63.1	59.5	61.0	61.35	29.498	.478	29.990
	28	Nadir 11h. 15m.	. .	3	. .	269 59 58.9	63.8	59.6	62.1	57.3	59.0	60.12*d*	29.873	.876	. .
	29	Iris	. .	1	V.	136 14 58.7	66.0	60.7	61.7	59.1	58.6	60.80	29.140	.156	. .
	30	Venus	. .	5	I-IX.	145 19 58.9	65.1	61.0	62.9	58.7	58.5	60.85	33.055	.073	30.177
	31	Mercury	. .	5	I-IX.	142 39 59.1	64.7	61.5	62.8	59.1	59.0	61.03	31.056	.073	30.182
	32	Nadir 23h. 10m.	. .	4	. .	269 59 59.4	62.5	59.6	60.6	58.0	59.5	59.93	29.884	.894	. .
9	33	Sun N. L.	. .	4	I-IV.	132 44 59.1	63.5	59.2	60.5	57.4	57.7	59.57	24.373	.394	. .
	34	Sun S. L.	. .	4	VI-IX.	133 19 58.5	63.5	58.9	58.8	57.5	58.3	59.25	29.676	.679	30.177
	35	δ Ursæ Min., S. P.(Ref.)	. .	3	4-2.	324 29 58.4	58.5	57.0	52.5	56.5	56.6	56.58	31.755	.756	. .
	36	δ Ursæ Minoris, S. P.	. .	3	. .	35 29 61.2	63.2	60.7	61.6	61.0	62.6	61.72	28.009	.029	30.116
	37	γ Geminorum	. .	4	I-IV.	112 24 59.7	62.1	57.6	56.9	59.1	60.1	59.25	34.363	.357	. .
	38	γ Geminorum, (Ref.)	. .	4	VI-IX.	247 39 58.9	59.7	59.5	58.5	59.8	62.5	59.82	34.986	.017	. .
	39	α Canis Majoris	. .	4	VI-IX.	145 24 59.4	61.0	57.9	55.5	58.2	59.5	58.58	30.848	.873	. .
	40	50 Draconis, S. P., (Ref.)	. .	1	V.	335 49 61.4	63.1	61.7	56.8	59.4	60.0	60.40	33.654	.658	. .
	41	m Puppis	5	5	I-IX.	153 54 60.5	62.4	60.2	58.0	58.1	59.2	59.73	28.916	.933	30.125
	42	Nadir 7h. 50m.	. .	4	. .	269 59 59.9	61.5	58.2	58.4	59.0	60.9	59.65	29.893	.899	. .
	43	Anon. 7h. 53m. 9s.	8	5	III-VII.	166 4 60.5	63.5	60.2	60.8	60.0	60.5	60.92	33.725	.730	. .
	44	Lacaille 3127	6	5	III-VII.	154 9 61.1	62.6	60.9	58.0	59.1	59.2	60.15	28.130	.148	. .
	45	Lacaille 3168	6.2	1	V.	166 9 60.1	63.4	60.7	61.4	59.9	60.6	61.02	35.186	.203	. .
	46	O. Arg. S. 8291	8.5	1	V.	153 39 61.3	63.3	60.6	59.3	58.7	59.9	60.52	27.686	.688	. .
	47	B. A. C. 2838	5.7	5	III-VII.	170 29 60.3	63.2	62.1	61.5	59.7	60.0	61.13	28.114	.135	30.142
	48	B. A. C. 8213, S. P.	. .	2	2, 1.	35 29 60.8	63.6	62.4	64.1	60.2	60.9	62.00	32.538	.548	30.099
11	49	Venus, centre	. .	5	III-VII.	144 19 58.2	62.2	57.5	58.7	57.7	57.9	58.70	30.687	.687	29.820
	50	Mercury, centre	. .	5	III-VII.	141 4 57.8	60.7	56.2	58.0	57.0	57.0	57.78	30.270	.291	29.830
12	51	Sun S. L.	. .	4	I-IV.	132 9 58.0	61.5	55.0	55.5	56.3	56.0	57.05	30.902	.909	. .
	52	Sun N. L.	. .	4	VI-IX.	131 39 56.9	60.6	54.8	55.0	56.9	55.9	56.68	35.080	.092	29.840
	53	Weisse VII, 461	8	1	V.	143 44 60.7	62.6	58.7	58.0	59.9	61.0	60.15	34.771	.772	. .
	54	Anon. 7h. 17m. 27s.	7.5	1	V.	" " "	"	"	"	"	"	"	20.648	.652	. .
	55	Anon. 7h. 19m. 14s.	7.5	1	V.	" " "	"	"	"	"	"	"	18.474	.487	. .
	56	Anon. 7h. 20m. 10s.	9	1	VIII.	" " "	"	"	"	"	"	"	48.953	.985	. .
	57	Anon. 7h. 23m. 12s.	6	5	III-VII.	" " "	"	"	"	"	"	"	48.379	.398	29.866
	58	Anon. 7h. 33m. 47s.	7.5	5	III-VII.	152 49 61.0	63.0	60.0	59.0	59.2	61.7	60.65	35.008	.020	. .
	59	Lalande 15006	. .	1	VII.	" " "	"	"	"	"	"	"	30.365	.402	. .
	60	O. Arg. S. 7865	7.5	5	III-VII.	154 34 60.5	64.0	59.0	58.0	59.1	61.1	60.28	33.176	.197	. .
	61	Anon. 7h. 58m. 3s.	7.5	1	V.	" " "	"	"	"	"	"	"	38.431	.446	29.870
	62	Lacaille 3201	6	1	V.	170 9 60.0	63.0	61.1	60.2	59.1	60.1	60.58	26.799	.800	. .
	63	Lacaille 3262	6	3	IV-VI.	162 59 60.0	62.8	59.0	59.5	59.0	60.3	60.10	28.356	.375	29.868
	64	Nadir 8h. 39m.	. .	5	. .	269 59 59.4	61.5	57.5	57.9	58.0	62.1	59.40*d*	29.885	.889	. .
	65	Iris	9	1	V.	135 54 59.2	64.2	59.2	59.1	59.4	61.5	60.43	36.178	.195	29.846
	66	β Leonis	. .	5	III-VII.	113 34 59.2	64.0	60.0	60.4	58.2	61.8	60.60	32.668	.670	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	' "	' "	° ' "	° ' "	"		
1	41.0	40.9	29.847	+ 16.8	+ 1 21.4	145 56 38.8	— 17 2 59.1		N.	Very tremulous.
2	43.2	43.0	. .	+ 1 11.9	1 13.6	143 37 24.9	14 43 45.7			
3	. .	. .	. .	— 16.3	— 49.4	133 35 34.0	— 4 58 1.6			Blurred.
4	46.5	46.9	. .	+ 1 58.0	50.3	134 7 47.5				Average.
5	. .	. .	. .	31.2	+ 16.4	105 35 49.1	+ 23 17 50.1			Very steady.
6	48.2	43.4	. .	+ 31.0	— 1 24.7	214 34 4.3	— 16 32 16.4	+ 32.8		
7	. .	. .	. .	— 18.5	56.2	46 13 46.9	+ 82 39 52.3	+ 13.7		
8	47.3	40.6	. .	+ 2 6.9	— 3 17.8	16 18 49.2	+ 67 25 10.0	— 14.8		
9										
10	41.3	33.5	. .	— 1 26.1	+ 2 31.1	158 36 6.4	— 29 42 27.2	+ 95.5		Bar. recorded 29.437.
11	. .	. .	. .	+ 6.1	— 7 41.3	6 47 26.5	+ 57 53 47.3	— 87.8		
12	. .	. .	. .	2 6.8	— 16.6	74 26 53.0	54 26 46.2	+ 97.1		
13	. .	. .	. .	+ 2 49.8	+ 16.6	285 33 7.1	54 26 46.4	97.1		
14	. .	. .	. .	— 57.2	+ 33.7	119 24 36.6	9 29 2.6	98.2		
15	40.0	32.8	. .	+ 55.8	— 33.7	240 35 23.6	9 29 2.9	98.2		
16	. .	. .	. .	— 1 58.1	+ 20.5	288 53 22.5	57 47 1.8	97.9		
17	. .	. .	. .	+ 1 55.9	— 20.5	71 6 37.5	+ 57 47 1.5	97.9		Mic. rev. probably 26. Reduction made for that number.
18										
19	42.0	36.4	29.872	— 1 57.6	+ 2 36.5	159 15 37.6	— 30 21 58.4	85.5	Ha.	
20	. .	. .	. .	— 18.1	15.5	104 29 57.7	+ 24 23 41.5	80.2		
21	. .	. .	. .	+ 7.6	2 29.9	158 22 39.4	— 29 29 0.2	88.6		
22	42.0	35.5	. .	+ 35.5	29.6	116 16 4.5	+ 12 37 34.7	87.0		
23	. .	. .	. .	— 29.2	1 48.6	151 11 18.7	— 22 17 39.5	91.7		
24	. .	. .	. .	+ 7 25.5	1 49.2	151 19 14.0	22 25 34.8	91.7		
25	41.5	35.4	. .	+ 1 51.5	2 23.1	157 24 14.2	— 28 30 35.0	92.4		
26	. .	. .	. .	— 14.4	+ 26.2	293 35 11.8	+ 62 28 51.0	89.9		
27	41.0	34.6	. .	+ 12.3	— 26.2	66 24 47.4	+ 62 28 51.8	89.9		
28										
29	. .	33.1	29.905	+ 22.4	+ 1 3.0	136 16 26.2	— 7 22 47.0			Exceedingly faint.
30	39.7	42.5	29.905	— 1 39.3	1 20.5	145 19 42.0	16 26 2.8		N.	Good.
31	42.7	46.1	. . .	— 36.6	1 11.8	142 40 36.2	13 46 57.0			
32										
33	. .	. .	. .	+ 2 52.7	48.5	132 48 40.7	— 4 11 9.1			
34	46.1	48.9	. .	+ 7.1	49.5	133 20 55.8				
35	. .	. .	. .	— 58.0	+ 1 22.3	324 30 20.9	+ 86 35 59.9	7.0		
36	49.3	46.9	. .	+ 58.8	— 1 22.3	35 29 38.2	86 35 59.0	7.0		At 6h. 17m. 28s., 18m. 3s., and 18m. 28s.
37	. .	. .	. .	— 2 19.5	+ 24.3	112 23 4.0	16 30 35.2	19.3		
38	. .	. .	. .	2 40.2	— 24.3	247 36 55.3	+ 16 30 34.6	19.3		Very good. Wt. = 5.
39	. .	. .	. .	30.3	+ 1 25.3	145 25 53.6	— 16 32 14.4	+ 33.0		
40	. .	45.4	. .	— 1 57.6	2 10.7	335 50 13.5	+ 75 16 7.3	— 6.2		
41	48.2	43.7	. .	+ 30.4	2 0.6	153 57 30.7	— 25 3 51.5	+ 53.8		
42										
43	. .	. .	. .	— 1 59.9	3 54.2	166 6 55.2	37 13 16.0	62.2		
44	. .	42.2	. .	+ 55.0	2 1.9	154 12 56.9	25 19 17.7	62.2		
45	. .	. .	. .	— 2 46.0	3 56.4	166 11 11.4	37 17 32.2	65.3		
46	. .	. .	. .	+ 1 9.5	1 59.8	153 43 9.8	24 49 30.6	65.6		Star of 9th mag. 3' N. and $0^{s}.6$ following.
47	47.3	41.4	. .	+ 55.5	+ 5 43.3	170 36 39.9	— 41 43 0.7	+ 70.6		
48	44.3	38.5	. .	— 1 22.8	— 1 23.8	35 27 15.4	+ 86 33 36.2	— 90.0		
49	49.0	51.3	. .	24.5	+ 1 15.4	144 20 49.6	— 15 27 10.3		Ha.	
50	51.0	53.0	. .	12.1	1 6.9	141 5 52.8	12 12 13.3			
51	. .	. .	. .	31.4	49.1	132 10 14.7	3 0 29.3			
52	52.0	55.1	. .	2 42.5	48.1	131 38 2.2				
53	. .	. .	. .	— 2 32.5	1 19.3	143 43 46.9	14 50 7.7	+ 46.2		
54	. .	. .	. .	+ 4 49.9	1 19.7	143 51 9.7	14 57 30.5	46.8		
55	. .	. .	. .	+ 5 57.8	1 19.7	143 52 17.6	14 58 38.4	47.4		
56	. .	. .	. .	— 9 57.8	1 18.9	143 36 21.2	14 42 42.0	47.7		
57	53.0	47.1	. .	9 39.4	1 19.0	143 36 39.7	14 43 0.5	48.8		
58	. .	. .	. .	2 40.3	1 53.1	152 49 13.4	23 55 34.2	54.4		
59	. .	. .	. .	15.6	1 53.2	152 51 38.2	23 57 59.0	54.8		
60	. .	. .	. .	1 43.1	2 2.2	154 35 19.3	25 41 40.1	62.1		
61	52.5	46.5	. .	— 4 27.6	2 1.9	154 32 34.5	25 38 55.3	62.5		
62	. .	. .	. .	+ 1 37.3	5 26.0	170 17 3.8	41 23 24.6	67.3		
63	52.0	46.3	. .	+ 47.9	3 9.0	163 3 57.0	34 10 17.8	68.5		
64										
65	49.0	42.1	. .	— 3 17.1	1 0.6	135 52 43.9	— 6 59 4.7			
66	. .	42.1	. .	— 1 26.6	+ 25.7	113 33 59.7	+ 15 19 39.5	+ 98.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
Mar. 13	1	Venus	. .	2	IV, VI.	143 39 59.6	64.6	62.0	63.4	56.5	57.6	60.62	33.395	.413	30.079
14	2	Sun N. L.	. .	4	I–IV.	130 59 59.3	64.8	58.6	60.9	57.0	58.3	59.82	49.022	.035	30.100
	3	Sun S. L.	. .	3	VII–IX.	131 24 59.2	65.5	58.9	61.1	57.2	57.6	59.92	35.314	.332	. .
	4	Nadir 0h. 0m.	. .	3	. .	269 59 60.1	64.6	60.4	63.1	58.8	61.0	61.33	29.891	.903	. .
	5	Moon S. L.	. .	5	I–IX.	108 54 59.7	64.9	60.1	60.1	59.4	59.9	60.68	30.313	.322	30.064
15	6	Venus	. .	4	VI–IX.	142 54 59.6	66.9	64.4	68.5	57.6	57.2	62.37	29.780	.786	29.898
17	7	Sun S. L.	. .	4	I–IV.	130 9 58.0	64.8	57.5	62.1	57.6	57.2	59.53	27.804	.808	. .
	8	Sun N. L.	. .	3	VI–IX.	129 39 60.1	66.5	58.6	63.1	60.2	59.4	61.33	31.996	.001	29.938
	9	Nadir 0h. 0m.	. .	3	. .	269 59 59.2	64.1	59.0	63.0	59.2	59.8	60.72	29.900	.904	. .
	10	Moon N. L.	. .	5	III–VII.	113 14 60.1	66.2	60.9	63.0	60.0	59.5	61.62	34.571	.576	29.852
	11	Nadir 8h. 26m.	. .	3	. .	269 59. 59.3	64.2	59.4	61.3	59.0	59.5	60.45*d*	29.904	.908	. .
	12	Venus	. .	3	IV–VI.	142 9 60.4	64.8	60.2	61.6	59.4	59.5	60.98	28.962	.970	29.737
18	13	Sun N. L.	. .	4	I–IV.	129 14 60.9	65.6	57.9	59.4	61.5	60.7	61.00	29.376	.395	. .
	14	Sun S. L.	. .	4	VI–IX.	129 49 58.5	63.4	56.0	58.2	60.0	58.9	59.17	34.840	.840	29.638
	15	δ Ursæ Minoris, S. P.	. .	3	5, 2, 1.	35 29 58.7	62.4	59.1	59.6	60.6	61.6	60.33	28.075	.088	29.545
	16	Nadir 6h. 30m.	. .	3	. .	269 59 58.6	58.8	55.4	55.3	57.4	60.1	57.60	29.852	.864	. .
	17	α Canis Majoris	. .	5	III–VII.	145 24 59.1	61.5	55.9	55.9	58.8	61.5	58.78	30.791	.794	. .
	18	Venus, centre	. .	5	III–VII.	141 49 60.9	65.5	60.6	62.3	59.6	59.8	61.45	34.397	.415	29.832
19	19	Sun S. L.	. .	4	I–IV.	129 24 60.2	65.2	57.8	61.0	61.1	61.4	61.12	32.272	.293	29.802
	20	Sun N. L.	. .	4	VI–IX.	128 54 61.0	66.9	59.0	62.2	62.6	63.0	62.45	36.520	.528	. .
	21	Nadir 0h. 12m.	. .	3	. .	269 59 60.0	63.0	58.3	60.4	59.5	60.0	60.20	29.872	.883	. .
21	22	Nadir 7h. 30m.	. .	3	. .	269 59 58.2	63.8	59.2	63.2	57.3	57.1	59.80	29.895	.899	. .
	23	Anon. 7h. 34m. 18s.	7.8	4	VI–IX.	163 24 58.5	64.1	61.5	63.6	57.9	56.7	60.38	37.779	.813	30.073
	24	Anon. 7h. 53m. 11s.	. .	1	V.	166 4 57.8	64.5	60.2	65.7	57.3	56.5	60.33	33.927	.932	. .
	25	Anon. 8h. 22m. 10s.	7.5	1	V.	163 29 59.0	65.4	62.0	64.9	58.7	57.2	61.20	39.952	.958	. .
	26	O. Arg. S. 8654	7.3	1	V.	154 4 58.6	65.6	62.0	64.0	57.4	56.1	60.62	29.061	.072	30.108
	27	Lacaille 3546	8	5	III–VII.	159 14 58.7	65.9	62.9	66.2	58.8	56.8	61.55	25.895	.903	. .
	28	Anon. 8h. 44m. 51s.	. .	1	IX.	169 59 57.8	65.4	63.1	66.4	58.2	57.3	61.37	24.715	.783	. .
	29	Anon. 8h. 50m. 58s.	. .	2	VIII, IX.	158 49 58.2	66.4	62.1	66.1	58.0	55.9	61.12	26.525	.578	. .
	30	O. Arg. S. 9276	7.5	5	III–VII.	159 19 58.5	65.4	62.6	66.8	58.7	57.3	61.55	29.340	.362	30.123
	31	Lacaille 3739	7.3	5	III–VII.	158 39 59.1	67.0	62.8	67.0	58.5	57.5	61.98	30.560	.572	. .
	32	μ Leonis	. .	4	I–IV.	102 14 57.2	66.1	60.8	65.3	57.8	57.0	60.70	30.151	.139	. .
	33	μ Leonis, (Ref.)	. .	4	VI–IX.	257 44 53.1	59.5	57.6	62.5	54.5	55.1	57.05	29.636	.668	. .
	34	α Leonis, (Ref.)	. .	4	I–IV.	243 44 58.1	65.0	61.3	65.1	57.9	57.9	60.88	31.079	.082	. .
	35	α Leonis	. .	4	VI–IX.	116 14 57.3	65.9	59.9	63.8	57.2	57.5	60.27	28.805	.816	30.128
	36	Moon N. L.	. .	4	I–IV.	128 29 58.2	65.0	58.9	64.8	56.1	56.9	59.99	29.482	.281	. .
	37	Moon S. L.	. .	4	VI–IX.	128 59 58.8	65.5	59.0	64.7	57.2	57.2	60.40	28.860	.076	30.115
	38	O. Arg. S. 11353	7	4	VI–IX.	159 49 58.2	65.4	61.6	66.0	57.5	56.1	60.80	30.386	.429	. .
	39	Iris	9.0	5	I–IX.	134 54 57.5	66.3	61.0	64.6	57.6	56.6	60.60	33.209	.230	30.130
	40	Nadir 11h. 40m.	. .	3	. .	269 59 58.1	65.0	60.0	65.8	56.7	56.5	60.35	29.930	.937	. .
23	41	Sun S. L.	. .	4	I–IV.	127 49 59.0	63.4	57.1	60.4	57.9	58.7	59.42	31.603	.610	29.961
	42	Sun N. L.	. .	4	VI–IX.	127 14 60.8	64.7	58.0	61.9	60.0	60.3	60.95	26.085	.096	. .
	43	Nadir 7h. 15m.	. .	3	. .	269 59 60.4	64.8	60.5	62.8	59.8	60.0	61.39	29.964	.975	. .
	44	Lacaille 2762	. .	1	V.	154 39 60.2	65.2	61.4	62.0	59.5	59.9	61.37	35.527	.537	29.931
	45	B. A. C. 3143	. .	5	III–VII.	167 29 59.7	65.0	63.1	65.1	59.5	58.0	61.73	26.416	.437	29.962
	46	Anon. 9h. 15m. 38s.	7.0	1	V.	163 29 60.2	64.9	62.7	63.8	59.9	59.5	61.83	25.099	.113	. .
	47	Anon. 9h. 26m. 12s.	7.7	1	V.	157 19 58.6	64.3	60.6	63.4	58.3	57.2	60.40	32.726	.727	. .
	48	Lacaille 3996	6.7	5	III–VII.	167 44 58.8	63.5	61.9	63.8	58.5	57.2	60.62	27.204	.228	. .
	49	Anon. 9h. 50m. 22s.	7	1	V.	" " "	"	"	"	"	"	"	31.950	.956	29.974
	50	Anon. 9h. 54m. 23s.	7.3	1	V.	163 29 58.4	64.5	61.6	63.2	59.4	58.4	60.92	29.100	.114	. .
	51	Anon. 11h. 15m. 52s.	7.7	1	V.	167 9 58.4	65.1	62.1	66.6	58.9	58.2	61.55	27.733	.734	29.963
	52	Iris	9.2	5	I–IX.	134 39 58.5	65.5	59.6	64.1	57.7	58.3	60.62	30.364	.384	. .
	53	Anon. 11h. 44m. 24s.	7.0	3	IV–VI.	164 59 58.6	65.2	60.6	65.2	58.4	57.5	60.92	28.096	.112	. .
	54	Lacaille 4976	6.5	5	III–VII.	162 9 58.8	64.6	61.2	65.5	57.7	57.1	60.82	33.052	.068	. .
	55	Anon. 11h. 58m. 16s.	7.8	5	III–VII.	" " "	"	"	"	"	"	"	14.907	.916	29.942
	56	Anon. 12h. 9m. 0s.	7.2	3	III–VII.	154 44 58.9	65.8	61.2	64.0	58.4	57.5	60.97	39.105	.124	. .
	57	Anon. 12h. 9m. 52s.	6.3	2	VIII, IX.	" " "	"	"	"	"	"	"	35.220	.279	. .
	58	Anon. 12h. 13m. 51s.	9.3	1	V.	" " "	"	"	"	"	"	"	30.621	.626	. .
	59	Anon. 12h. 22m. 50s.	9.0	3	IV–VI.	166 24 58.7	66.7	62.0	67.2	59.2	57.9	61.95	30.027	.039	. .
	60	Lacaille 5214	. .	1	IV.	167 54 59.1	65.7	62.8	67.5	58.4	57.5	61.83	27.441	.450	. .
	61	Anon. 12h. 36m. 57s.	9.0	5	III–VII.	165 19 58.6	65.9	61.2	65.9	57.8	57.4	61.13	31.014	.029	. .
	62	Moon S. L.	. .	5	I–IX.	137 44 58.0	65.6	59.8	63.6	58.4	56.6	60.33	31.787	.798	29.991
	63	Nadir 12h. 55m.	. .	3	. .	269 59 59.1	65.2	60.8	65.6	58.5	58.4	61.27	29.969	.976	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ″ ′	″		
1	43.5	42.1	29.861	— 1 51.3	+ 1 15.4	143 39 24.7	— 14 45 45.5		N.	
2	47.5	46.3	. .	10 0.8	45.2	130 50 44.2	— 2 13 10.2			
3	. . .	. . .	. .	2 51.4	+ 46.1	131 22 54.6				
4										
5	48.0	42.2	. .	— 14.4	— 32 37.1	108 22 9.1	+ 20 31 30.1			
6	33.0	31.0	29.870	+ 2.6	+ 1 14.8	142 56 19.8	— 14 2 40.6			
7	. . .	. . .	29.881	+ 1 5.0	44.7	130 11 49.2	— 1 2 4.8			
8	38.0	39.0	. .	— 1 6.4	+ 43.8	129 39 38.7				Missed wire VII.
9										
10	49.0	34.5	29.894	— 2 26.7	— 5 56.5	113 6 38.4	+ 15 47 0.8		Ha.	At. Ther. perhaps 39.0.
11										
12	42.2	46.6	29.920	+ 29.8	+ 1 9.9	142 11 40.6	— 13 18 1.4		N.	
13	. . .	. . .	29.930	+ 16.8	41.4	129 15 59.1	— 0 38 24.1			
14	46.2	51.8	. .	— 2 33.9	+ 42.3	129 48 7.5				Weight 4, Bar. undulating.
15	48.5	51.2	29.941	+ 58.1	— 1 20.1	35 29 38.3	+ 86 35 59.1	+ 7.4		
16										
17	. . .	. . .	. .	— 26.7	+ 1 22.9	145 25 54.9	— 16 32 15.7	33.5		
18	43.0	41.3	29.877	2 22.2	1 10.0	141 48 49.2	12 55 10.0		Ha.	
19	45.0	44.2	. .	1 15.7	42.7	129 24 28.1	0 14 42.7			
20	. . .	. . .	. .	3 28.4	41.8	128 52 15.8				Very unsteady.
21										
22									N.	
23	34.0	29.3	29.905	4 7.8	3 21.4	163 24 13.9	34 30 34.7	57.3		Time not observed. A. R. "not far wrong."
24	. . .	. . .	. .	2 6.2	4 1.5	166 6 55.6	37 13 16.4	63.9		
25	. . .	. . .	. .	— 5 15.0	3 23.1	163 28 9.3	34 34 30.1	72.2		
26	33.0	27.8	. .	+ 26.1	2 5.5	154 7 32.2	25 13 53.0	71.6		Several other stars in the field.
27	. . .	. . .	. .	2 5.4	2 40.8	159 19 47.7	30 26 8.5	77.4		Perhaps 24 rev.
28	. . .	27.5	. .	2 40.5	5 37.3	170 8 19.1	41 14 39.9	78.9		Faint and uncertain.
29	. . .	. . .	29.916	1 44.6	2 37.4	158 54 23.1	30 0 43.9	79.1		
30	32.4	27.6	. .	+ 17.4	2 41.3	159 23 0.2	30 29 21.0	80.6		
31	. . .	. . .	. .	— 20.6	2 36.3	158 42 17.6	— 29 48 38.4	73.4		
32	. . .	. . .	. .	— 7.0	+ 13.3	102 15 7.0	+ 26 38 32.2	80.2		Unsteady.
33	. . .	. . .	. .	+ 7.8	— 13.3	257 44 51.5	26 38 30.8	80.2		
34	. . .	. . .	. .	— 36.5	— 30.4	243 43 53.9	12 37 33.2	86.7		
35	32.0	25.8	. .	+ 34.5	+ 30.4	116 16 5.1	12 37 34.1	86.7		
36	. . .	. . .	. .	19.9	— 32 56.4	127 57 23.4	+ 0 41 23.0			
37	30.0	25.2	. .	+ 26.3	— 33 17.6	128 27 9.1				
38	. . .	. . .	. .	— 16.1	+ 1 54.6	151 51 39.3	— 22 58 0.1	98.6		
39	30.0	25.1	. .	1 43.8	1 1.4	134 54 18.2	— 6 0 39.0			
40										
41	39.0	31.7	29.936	— 52.5	41.6	127 49 48.5	+ 1 19 54.0			
42	. . .	. . .	. .	+ 2 0.3	40.8	127 17 42.0				
43										
44	37.3	35.1	. .	— 2 55.5	2 5.8	154 39 11.6	— 25 45 32.4	49.8		
45	34.7	31.6	.	+ 1 49.6	4 27.6	167 36 18.9	38 42 39.7	84.1		
46	. . .	. . .	. .	+ 2 31.1	3 22.0	163 35 54.9	34 42 15.7	85.6		
47	. . .	. . .	. .	— 1 27.5	2 24.1	157 20 57.0	28 27 17.8	96.9		
48	. . .	. . .	. .	+ 1 24.9	4 33.9	167 50 59.4	38 57 20.2	90.4		
49	34.0	29.1	. .	— 1 3.3	4 33.4	167 48 30.7	38 54 51.5	92.2		
50	. . .	. . .	. .	+ 25.8	3 22.9	163 33 49.6	34 40 10.4	92.5		
51	32.3	26.0	. .	+ 1 9.0	4 23.7	167 15 34.2	38 21 55.0	99.9		
52	. . .	. . .	. .	— 14.0	1 0.5	134 40 47.1	5 47 7.9			
53	. . .	. . .	. .	+ 57.2	3 45.5	165 4 43.6	36 11 4.4	98.4		
54	. . .	. . .	. .	— 1 38.1	3 8.0	162 11 30.7	33 17 51.5	98.0		
55	31.2	25.5	. .	+ 7 50.6	3 10.0	162 21 1.4	33 27 22.2	97.8		
56	. . .	. . .	. .	— 4 47.9	2 8.8	154 42 21.8	25 48 42.6	97.5		
57	. . .	. . .	. .	2 47.4	2 9.1	154 44 22.6	25 50 43.4	97.4		
58	. . .	. . .	. .	21.6	2 9.3	154 46 48.6	25 53 9.4	97.0		
59	. . .	. . .	. .	— 3.2	4 9.1	166 29 7.8	37 35 28.6	95.3		
60	. . .	. . .	. .	+ 1 17.9	4 40.4	168 1 0.1	39 7 20.9	94.5		Cloudy.
61	. . .	. . .	. .	— 34.2	+ 3 50.5	165 23 17.4	36 29 38.2	+ 93.7		
62	30.3	25.3	. .	— 58.3	— 54 41.0	136 49 21.0	— 7 55 41.8			
63										

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. Mar. 23	1	Saturn S. L. . . .	. .	3	I–IX.	132 29 58.7	67.0	60.9	65.6	57.8	57.9	61.32	31.764	.767	. .
	2	Saturn N. L. . . .	. .	2	III, VII.	“ “ “	“	“	“	“	“	“	32.275	.295	. .
	3	Venus, centre . .	. .	5	III–VII.	139 49 58.0	66.4	58.3	63.0	59.1	57.0	60.30	33.464	.478	30.150
	4	Mercury, centre . .	. .	5	III–VII.	132 54 58.2	67.1	58.5	62.8	60.5	60.0	61.18	29.269	.288	30.154
24	5	Sun N. L. . . .	. .	4	VI–IX.	126 54 57.5	65.1	56.0	59.9	60.0	57.9	59.40	32.894	.895	30.150
	6	Polaris	. .	5	1–5.	40 19 57.3	63.6	58.1	60.2	59.9	59.9	59.83	30.824	.821	30.144
	7	Iris	. .	1	V.	134 34 57.9	64.0	56.0	59.0	57.4	58.5	58.80	33.761	.762	30.070
	8	β Leonis, (Ref.) . .	. .	4	I–IV.	246 24 58.0	63.7	59.6	62.5	59.8	61.9	60.92	27.210	.218	. .
	9	β Leonis	. .	4	VI–IX.	113 34 58.7	65.3	59.2	61.2	58.8	59.9	60.52	32.726	.737	. .
	10	Nadir 11h. 59m. . .	. .	5	. .	269 59 58.9	64.0	58.0	60.4	58.4	60.4	60.02*d*	29.936	.942	. .
	11	Anon. 12h. 11m. 45s.	6	5	III–VII.	128 54 58.0	64.0	56.5	58.9	58.0	58.3	58.95	29.946	.952	. .
	12	η Virginis	. .	2	VIII, IX.	“ “ “	“	“	“	“	“	“	43.751	.773	30.072
	13	β Corvi	. .	5	III–VII.	151 29 59.1	64.3	60.0	61.3	59.0	57.9	60.27	28.545	.557	. .
	14	Saturn S. L. . .	. .	3	III–VII.	132 29 58.8	66.9	58.8	62.0	58.0	59.1	60.60	35.180	.198	. .
	15	Saturn N. L. . .	. .	2	IV, VI.	“ “ “	“	“	“	“	“	“	35.691	.693	. .
	16	Polaris, S. P. . .	. .	5	. .	37 29 57.4	63.9	58.5	62.4	58.7	58.1	59.83	29.443	.505	30.054
	17	Moon S. L. . . .	. .	5	III–VII.	141 44 57.8	63.1	58.4	59.9	56.1	57.2	58.75	30.254	.273	30.056
28	18	Sun N. L. . . .	. .	4	VI–IX.	125 19 59.6	55.1	59.5	60.4	59.6	60.8	59.17	30.637	.637	30.200
	19	Nadir 9h. . . .	. .	2	. .	269 59 66.5	68.3	63.5	65.3	64.9	68.0	66.08	30.096	.105	.
April 6	20	λ Ursæ Minoris, S. P.	. .	3	V.	37 49 59.0	60.0	57.9	58.5	58.0	62.4	59.30	32.144	.160	30.096
	21	κ Cephei, S. P. . .	4	5	VII–III.	26 14 59.6	62.2	59.0	58.8	58.1	61.2	59.82	32.834	.869	. .
	22	B. A. C. 2843 . .	7	5	III–VII.	160 4 59.0	59.3	56.5	56.3	54.9	59.5	57.58	29.890	.898	. .
	23	B. A. C. 7124, S. P.	. .	5	VII–III.	20 59 59.9	61.0	58.5	60.2	59.2	61.9	60.12	29.401	.440	30.105
	24	Lacaille 3552 . .	7.7	5	III–VII.	158 44 59.9	61.3	57.3	58.6	56.2	60.4	58.95	27.420	.439	. .
	25	B. A. C. 7299, S. P.	. .	5	VI–IV.	28 59 59.5	60.5	59.2	60.8	58.5	62.4	60.15	34.314	.345	. .
	26	Nadir 9h. 5m. . .	. .	3	. .	269 59 60.1	60.3	56.0	56.6	58.0	61.8	58.80	29.875	.886	. .
	27	Lacaille 3796 . .	7.5	1	V.	159 4 61.2	62.2	58.9	59.6	57.6	61.0	60.08	29.292	.311	. .
	28	1 (Hev.) Draconis .	. .	3	IV–VI.	46 59 58.9	59.3	57.4	57.0	58.0	61.6	58.70	31.544	.533	30.127
	29	Anon. 9h. 39m. 59s.	8.3	1	V.	165 59 60.0	61.1	. .	59.5	. .	61.2	58.97	27.145	.161	. .
	30	Lacaille 4030 . .	7.2	3	IV–VI.	165 49 59.5	62.0	56.9	59.2	57.4	60.4	59.23	28.757	.760	. .
	31	Weisse IX, 1259 .	7.0	1	V.	115 24 60.3	62.5	56.6	57.1	58.0	63.3	59.63	26.348	.366	. .
	32	Anon. 10h. 8m. 34s.	7.5	1	V.	158 59 60.4	62.4	58.6	59.9	57.4	61.0	59.95	29.678	.681	30.131
	33	δ Leonis	. .	5	I–IX.	107 34 59.8	62.1	58.1	56.8	57.7	61.6	59.35	25.156	.162	. .
	34	Iris	. .	3	III–VII.	133 4 60.1	63.7	57.6	58.8	58.3	62.3	60.13	27.194	.213	30.129
	35	B. A. C. 8213, S. P.	5.3	3	near 1.	35 29 60.2	61.4	59.3	61.2	57.7	62.4	60.37	32.857	.860	. .
	36	τ Cassiopeæ, S. P. .	. .	5	VII–III.	6 54 60.0	61.6	60.0	60.6	56.6	59.5	59.72	30.178	.208	. .
	37	Lacaille 4948 . .	6.5	5	III–VII.	155 9 55.7	62.1	58.1	58.3	57.5	60.0	58.62	30.496	.511	. .
	38	Anon. 12h. 3m. 46s.	9	1	V.	168 39 59.3	60.1	58.9	60.2	55.6	59.3	58.90	33.895	.899	. .
	39	Nadir 12h. 50m. .	. .	3	. .	269 59 60.3	60.9	57.1	58.6	56.9	61.5	59.22	29.888	.900	. .
	40	Saturn	. .	3	III–VII.	132 4 60.2	62.6	57.4	59.0	56.8	60.1	59.35	32.341	.359	30.115
7	41	Sun S. L. . . .	. .	4	I–IV.	121 29 59.2	62.5	56.0	57.6	55.9	58.0	58.20	29.579	.584	30.182
	42	Sun N. L. . . .	. .	4	VI–IX.	121 59 59.3	62.6	55.9	58.1	56.1	59.0	58.50	25.974	.977	. .
	43	Nadir 8h. 35m. . .	. .	3	. .	269 59 59.5	59.2	55.4	56.0	56.2	61.2	57.92*d*	29.915	.920	. .
	44	ε Hydræ	. .	4	VI–IX.	121 59 59.1	61.7	55.3	57.0	57.0	60.6	58.45	33.034	.057	30.128
	45	ι Ursæ Majoris, (Ref.)	. .	4	I–IV.	279 39 59.2	60.2	56.0	55.0	56.8	59.9	57.85	28.905	.920	. .
	46	ι Ursæ Majoris . .	. .	4	VI–IX.	80 19 59.2	63.6	58.9	59.3	60.5	65.2	61.12	31.013	.011	. .
	47	α Hydræ, (Ref.) . .	. .	4	I–IV.	222 59 60.0	59.2	58.1	59.3	55.4	63.1	59.18	24.640	.625	. .
	48	α Hydræ	. .	4	VI–IX.	136 59 60.4	63.0	56.8	57.2	58.1	60.3	59.30	35.283	.321	30.125
	49	ε Leonis, (Ref.) . .	. .	4	I–IV.	255 29 58.9	60.7	57.6	60.0	57.5	63.5	59.70	29.323	.337	. .
	50	ε Leonis	. .	4	VI–IX.	104 29 60.0	63.8	58.4	59.9	59.2	63.0	60.72	30.654	.663	. .
	51	11 Cephei, S. P. . .	. .	3	III–I.	19 34 60.5	61.9	59.0	60.9	58.2	61.1	60.27	25.304	.391	. .
	52	79 Draconis, S. P. . .	. .	2	II, I.	22 4 59.4	62.0	59.3	61.6	58.8	62.6	60.62	40.390	.511	. .
	53	α Leonis	. .	3	VII–IX.	116 14 60.2	62.7	56.5	56.8	56.5	61.2	58.98	28.853	.880	30.122
	54	ι Cephei, S. P. . .	. .	5	VII–III.	14 24 58.9	62.9	58.1	59.8	56.7	59.2	59.27	27.117	.149	30.092
	55	α Ursæ Majoris, (Ref.)	. .	4	I–IV.	293 34 59.1	60.3	57.9	55.1	57.0	58.9	58.05	30.042	.083	. .
	56	α Ursæ Majoris . .	. .	4	VI–IX.	66 24 59.1	63.0	60.1	61.5	59.8	64.9	61.40	29.886	.859	. .
	57	Iris	. .	1	V.	132 59 58.9	62.2	55.1	59.0	56.1	61.4	58.78	29.690	.692	.
	58	γ Ursæ Majoris, (Ref.)	. .	4	I–IV.	285 29 59.6	59.7	57.0	57.0	56.3	60.9	58.42	24.172	.207	. .
	59	γ Ursæ Majoris . .	. .	4	VI–IX.	74 29 61.5	65.9	62.7	64.2	61.8	66.1	63.70	35.853	.837	30.084
	60	Nadir 11h. 58m. . .	. .	3	. .	269 59 59.8	62.1	57.0	59.2	57.0	61.8	59.48*d*	29.960	.967	. .
	61	Venus, centre . .	. .	5	III–VII.	133 9 60.6	64.5	59.7	60.9	58.1	63.1	61.15	29.938	.945	30.091
8	62	Sun N. L. . . .	. .	4	I–IV.	121 9 61.1	64.8	59.3	59.8	58.6	61.7	60.88	34.226	.242	30.078
	63	Sun S. L. . . .	. .	4	VI–IX.	121 39 61.0	64.2	58.6	59.5	58.9	60.7	60.48	30.573	.544	. .
11	64	B. A. C. 3627 . .	6.2	5	III–VII.	151 19 58.9	60.9	58.2	59.5	55.1	59.0	58.60	28.344	.365	29.990
	65	O. Arg. S. 10840 .	6.7	5	III–VII.	158 59 59.6	62.1	59.5	61.0	55.5	59.2	59.48	28.332	.355	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	″ ′	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.936	− 57.4	+ 55.5	132 29 59.4	− 3 36 11.9		N.	
2	. .	. .	. .	1 13.9	55.5	132 29 42.9				
3	37.0	39.0	. .	− 1 51.0	1 6.2	139 49 15.5	10 55 36.3		Ha.	
4	41.0	41.7	. .	+ 20.3	51.0	132 56 12.4	− 4 2 33.2			
5	42.5	43.1	. .	− 1 32.7	+ 16 43.5	127 10 10.2	+ 1 43 29.0			
6	44.0	44.9	. .	27.7	− 1 9.5	40 18 22.6	+ 88 35 16.6	− 88.5		
7	40.5	33.7	. .	− 1 59.9	+ 59.4	134 33 58.3	− 5 40 19.1			
8	. .	. .	. .	+ 1 25.2	− 26.3	246 25 59.8	+ 15 19 39.1	+ 97.3		
9	. .	. .	. .	− 1 27.8	+ 26.3	113 33 59.0	+ 15 19 40.2	97.3		
10										
11	. .	. .	. .	0.5	48.8	128 55 47.2	− 0 2 8.0	97.9		
12	40.0	33.0	. .	− 7 13.6	48.6	128 48 33.9	+ 0 5 5.3	97.8		
13	. .	. .	. .	+ 43.2	1 51.1	151 32 34.5	− 22 38 55.3	+ 95.5		
14	. .	. .	. .	− 2 44.9	54.6	132 28 10.3	− 3 34 23.3			
15	. .	. .	. .	− 3 0.4	+ 54.6	132 27 54.8				[13h. 15m. 8s.
16	39.0	32.9	. .	+ 13.5	− 1 18.7	37 28 54.6	+ 88 35 15.4	− 88.3		At intervals of 30s. from 13h. 13m. 8s. till
17	39.0	32.5	. .	− 10.6	− 57 30.9	140 47 17.2	− 11 53 38.0			Through clouds.
18	70.0	53.5	29.911	22.7	+ 16 39.2	125 36 15.6	+ 3 17 23.6		N.	Barometer and thermometer from Meteorological Journal.
19										
20	54.5	52.3	29.925	1 10.0	− 1 14.9	37 47 34.4	88 53 55.2	31.8		Near wire V.
21	. .	. .	. .	− 1 32.2	− 1 57.7	26 11 29.9	+ 77 17 50.7	− 34.7		
22	. .	. .	. .	+ 0.8	+ 2 39.5	160 7 37.8	− 31 13 58.6	+ 73.0		
23	53.7	51.1	. .	15.2	− 2 30.8	20 57 44.5	+ 72 4 5.2	− 40.3		
24	. .	. .	. .	+ 1 17.9	+ 2 29.2	158 48 46.0	− 29 55 6.8	+ 79.1		
25	. .	. .	. .	− 2 18.5	− 1 45.1	28 55 56.5	+ 80 2 17.3	− 47.9		
26										
27	. .	. .	. .	+ 19.2	+ 2 31.9	159 7 51.1	− 30 14 11.9	+ 86.8		
28	52.2	50.2	. .	− 50.4	− 54.5	46 58 13.8	+ 81 55 25.4	57.1		
29	. .	. .	. .	+ 1 26.6	+ 3 51.1	166 5 16.6	− 37 11 37.4	92.8		— 1″.58 applied to mean of A and B for mean of all.
30	. .	. .	. .	36.5	3 48.1	165 54 23.8	− 37 0 44.6	93.2		
31	. .	. .	. .	1 51.5	27.9	115 27 19.0	+ 13 26 20.2	85.3		Perhaps 25 rev.
32	51.2	49.1	. .	7.6	2 31.6	159 2 39.1	− 30 8 59.9	96.3		
33	. .	. .	. .	2 29.2	18.7	107 37 47.2	+ 21 15 52.0	+ 93.0		
34	50.0	48.1	. .	+ 1 25.0	+ 54.9	133 7 20.0	− 4 13 40.8			
35	. .	. .	. .	− 1 32.0	− 1 22.3	35 27 6.0	+ 86 33 26.8	− 81.6		
36	. .	48.0	. .	8.9	− 7 32.6	6 47 18.2	+ 57 53 39.0	− 80.1		
37	. .	. .	. .	18.4	+ 2 6.4	155 11 46.6	− 26 18 7.4	+ 100.8		
38	. .	. .	. .	2 4.5	4 45.1	168 42 39.5	39 49 0.3	100.2		
39										
40	48.7	46.4	. .	− 1 16.3	52.5	132 4 35.5	− 3 10 56.3			
41	54.0	57.3	29.985	+ 12.5	31.0	121 30 41.7	+ 7 7 0.5		Ha.	
42	. .	. .	. .	+ 2 5.6	31.6	122 2 35.7				
43										
44	54.5	51.0	. .	− 1 36.3	36.4	121 58 58.5	6 54 40.7	67.8		
45	. .	. .	. .	+ 33.4	+ 10.0	279 40 41.2	48 34 20.5	57.1		
46	. .	. .	. .	− 32.1	− 10.0	80 19 19.0	+ 48 34 20.3			
47	. .	. .	. .	+ 2 48.0	− 1 2.7	223 1 44.4	− 8 4 36.3	83.1		
48	54.0	48.9	. .	− 2 47.2	+ 1 2.7	136 58 14.8	− 8 4 35.6			
49	. .	. .	. .	+ 20.3	− 15.2	255 30 4.8	+ 24 23 44.1	77.6		
50	. .	. .	. .	− 21.2	+ 15.2	104 29 54.7	24 23 44.5	+ 77.6		
51	. .	. .	. .	+ 2 23.9	− 2 43.3	19 34 40.8	70 41 1.6	− 60.2		
52	. .	. .	. .	− 5 29.8	− 2 24.6	21 57 6.2	73 3 27.0	− 63.0		
53	53.5	47.2	. .	+ 34.6	+ 29.0	116 16 2.5	12 37 36.7	+ 85.8		
54	52.0	45.9	. .	+ 1 28.9	− 3 45.0	14 22 43.1	65 29 3.9	− 73.6		
55	. .	. .	. .	− 3.1	+ 25.7	293 35 20.7	62 28 59.9	+ 82.2		
56	. .	. .	. .	+ 3.9	− 25.7	66 24 39.6	+ 62 28 59.6			
57	. .	. .	. .	9.2	+ 55.1	133 1 3.0	− 4 7 23.8			
58	. .	. .	. .	+ 3 1.1	+ 16.5	285 33 16.0	+ 54 26 55.2	+ 89.2		
59	50.0	41.9	. .	− 3 3.4	− 16.5	74 26 43.8	+ 54 26 55.5			
60										
61	51.3	58.1	29.980	+ 1.1	+ 50.0	133 10 52.2	− 4 17 13.0		N.	
62	55.0	63.3	. .	− 2 13.5	30.0	121 8 17.3	+ 7 29 23.9			
63	. .	. .	. .	− 17.7	30.6	121 40 13.3			Ha.	
64	53.6	49.8	29.962	+ 50.0	1 46.2	151 22 34.8	− 22 28 55.6	98.2	N.	
65	. .	. .	. .	+ 50.4	+ 2 30.8	159 3 20.6	− 30 9 41.4	+ 100.3		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. April 11	1	O. Arg. S. 10912 .	7.7	5	III–VII.	158 39 59.8	61.8	59.6	60.2	54.6	58.1	59.02	26.897	.905	. .
	2	O. Arg. S. 10974 .	7.3	5	III–VII.	158 29 60.5	62.4	60.2	61.8	55.3	59.5	59.95	33.079	.096	. .
	3	Anon. 10h. 55m. 21s.	7.8	3	III–VII.	161 59 60.2	61.8	60.4	61.7	55.0	60.8	60.12	26.409	.431	29.996
	4	Nadir 11h. 10m. . .	. .	3	. .	269 59 61.0	62.2	58.6	61.0	57.8	62.3	60.48	29.966	.977	. .
	5	Iris	9.2	5	I–IX.	132 34 60.4	62.6	58.8	60.5	55.9	61.5	59.95	28.334	.355	. .
	6	Venus, centre . .	. .	5	III–VII.	131 19 60.9	64.2	57.0	61.1	56.7	59.3	59.87	35.134	.149	29.990
	7	Polaris	. .	2	I, 5.	40 19 61.0	66.0	61.1	65.3	59.1	65.1	62.93	30.839	.834	29.956
12	8	Sun S. L. . . .	. .	4	I–IV.	120 9 58.0	61.2	53.4	57.0	53.8	58.7	57.02	27.058	.066	29.956
	9	Sun N. L. . . .	. .	4	VI–IX.	119 39 59.1	61.0	53.7	58.0	55.0	58.2	57.50	30.749	.745	. .
	10	Nadir 1h. 40m. . .	. .	3	. .	269 59 59.6	60.9	55.2	58.6	55.5	60.6	58.40	29.926	.937	. .
	11	Mercury, centre . .	. .	1	V.	115 49 60.0	63.5	56.0	58.9	57.0	61.2	59.43	30.748	.749	29.946
13	12	d Ursæ Majoris . .	. .	5	III–VII.	58 29 59.8	65.1	61.2	64.1	60.1	67.0	62.85	32.524	.513	29.935
	13	O. Arg. S. 9931 . .	7.5	4	VI–IX.	159 14 58.4	61.3	58.9	60.9	54.2	58.9	58.77	33.368	.415	. .
	14	11 Cephei, S. P. . .	. .	3	VI–IV.	19 39 59.9	62.8	61.2	63.2	56.5	60.1	60.62	34.946	.960	. .
	15	Weisse 1279 . . .	8.7	5	III–VII.	115 9 59.5	64.2	59.2	61.2	56.5	62.2	60.47	25.652	.654	29.950
	16	Nadir 11h. 30m. . .	. .	3	. .	269 59 59.5	62.1	58.1	61.3	55.6	61.3	59.65	29.940	.951	. .
17	17	α Piscis Australis . .	. .	5	III–VII.	159 14 56.0	60.8	59.4	60,0	53.5	53.0	57.12	36.722	.728	29.993
	18	α Pegasi	. .	5	I–IX.	114 24 58.6	64.5	61,1	61.4	56.8	57.2	59.93	30.469	.476	. .
18	19	Sun N. L. . . .	. .	4	I–IV.	117 29 59.5	62.6	. .	57.9	56.4	57.2	58.08	26.372	.384	. .
	20	Sun S. L. . . .	. .	4	VI–IX.	118 4 61.6	65.2	57.1	59.6	58.6	59.6	60.28	32.338	.351	29.974
	21	Nadir 2h. 0m. . .	. .	5	. .	269 59 60.1	62.5	59.3	59.6	58.4	60.8	60.12	29.980	.990	. .
	22	76 Draconis, S. P. . .	. .	3	VI–V.	30 54 60.4	62.7	61.2	61.0	59.9	62.0	61.20	26.921	.944	. .
	23	B. A. C. 7299, S. P.	5.5:	3	5–1.	28 59 60.6	63.4	63.9	63.2	61.8	62.1	62.50	34.520	.531	29.926
	24	Lacaille 3802 . .	7.8	3	III–VII,	158 49 61.3	63.2	61.9	60.8	57.9	59.6	60.78	33.231	.256	. .
	25	1 (Hev.) Draconis .	. .	4	VI½–VII½.	46 59 59.4	61.2	60.4	58.9	59.8	61.1	60.13	31.781	.688	. .
	26	O. Arg. S. 9789 . .	8.5	2	VIII, IX.	158 24 60.2	62.9	60.9	59.1	57.5	58.9	59.92	30.623	.672	29.931
	27	Anon. 9h. 50m. 22s.	. .	2	III, V.	167 44 60.3	61.3	61.5	60.2	58.8	59.1	60.20	31.504	.510	. .
	28	Weisse X, 115 . .	9.2	5	I–IX.	116 19 59.5	62.1	58.1	57.0	57.4	60.2	59.05	29.742	.737	29.934
	29	B. A. C. 3593 . .	. .	5	III–VII.	52 29 60.1	61.8	62.0	60.6	59.5	63.1	61.18	30.674	.646	. .
	30	Nadir	. .	4	. .	269 59 60.6	61.9	59.5	58.9	58.4	61.3	60.10d	29.966	.975	. .
	31	Anon. 10h. 43m. 15s.	7.8	5	III–VII.	158 9 60.9	63.2	61.9	59.4	57.8	58.9	60.35	33.432	.451	. .
	32	Anon. 10h. 52m. 32s.	7.2	5	III–VII.	151 24 59.6	62.1	61.0	59.2	58.2	57.9	59.67	32.232	.254	29.935
	33	Iris	9.5	3	III–VII.	131 54 60.1	62.1	58.8	58.2	56.9	56.8	59.15	25.199	.217	. .
	34	B. A. C. 8213, S. P.	5.0	5	5–1.	35 29 59.3	62.1	61.4	61.5	58.8	60.6	60.62	32.994	.005	29.937
	35	Moon N. L. . . .	. .	5	I–IX.	131 14 61.0	63.4	59.3	58.4	57.7	59.9	59.95	26.182	.194	. .
	36	B. A. C. 8314, S. P.	6.0	5	VII–III.	22 34 60.5	64.0	62.6	62.0	59.4	61.1	61.60	29.654	.682	29.936
19	37	Sun N. L. . . .	. .	5	III–VII.	117 9 59.0	64.0	53.0	59.0	56.9	58.0	58.32	27.679	.681	29.922
	38	76 Draconis, S. P. . .	. .	5	5–1.	30 54 59.0	64.0	60.9	62.0	59.1	61.0	61.00	26.910	.915	. .
	39	B. A. C. 7299, S. P.	. .	3	. .	28 59 59.0	64.9	61.9	64.0	60.6	61.7	62.02	34.384	.485	29.896
	40	1 (Hev.) Draconis .	. .	4	III–VII.	46 59 58.3	63.1	60.2	60.4	59.5	61.0	60.42	31.764	.714	. .
	41	β Cephei, S. P. . .	. .	5	VII–III.	18 54 59.8	64.2	62.1	62.2	59.0	58.6	60.98	31.551	.581	29.908
	42	Nadir 9h. 45m. . .	. .	3	. .	269 59 59.4	63.0	58.2	60.1	58.1	60.5	59.88d	29.961	.968	. .
	43	O. Arg. S. 10936 .	9.0	1	V.	158 19 59.1	64.6	60.2	60.8	57.6	58.1	60.07	43.178	.195	. .
	44	O. Arg. S. 10941 .	8.0	1	VI.	" " "	"	"	"	"	"	"	31.372	.389	. .
	45	O. Arg. S. 10952 .	8.0	1	VI.	" " "	"	"	"	"	"	"	41.432	.447	29.922
	46	α Ursæ Majoris . .	. .	5	III–VII.	66 24 59.7	63.2	61.1	61.3	60.0	63.0	61.38	29.949	.941	. .
	47	δ Leonis	. .	5	III–VII.	107 39 59.6	64.8	60.2	60.0	58.4	59.5	60.42	34.880	.880	. .
	48	Lacaille 4672 . .	. .	5	III–VII.	167 24 59.0	64.5	61.2	62.1	58.0	57.0	60.30	29.698	.706	. .
	49	Lacaille 4766 . .	7.0	5	III–VII.	167 19 58.3	63.8	61.1	61.5	58.0	57.0	59.95	31.970	.983	21.918
	50	Lacaille 4837 . .	7.0	5	III–VII.	166 9 59.1	64.2	60.6	62.4	57.7	58.3	60.38	27.309	.334	. .
	51	Lacaille 5016 . .	7.0	5	III–VII.	166 44 58.9	64.1	61.0	63.0	57.8	58.2	60.50	29.949	.961	. .
	52	Anon. 12h. 6m. 14s.	6.0	5	III–VII.	162 14 59.1	62.5	61.5	60.3	56.0	58.0	59.57	33.583	.595	. .
	53	Anon. 12h. 14m. 17s.	7.5	1	V.	157 49 59.5	64.5	61.2	61.1	57.1	58.1	60.25	30.550	.559	. .
	54	Lacaille 5131 . .	7.0	1	V.	158 24 60.0	64.8	62.6	61.5	57.2	58.0	60.68	27.376	.393	. .
	55	Moon N. L. . . .	. .	5	III–VII.	135 39 59.8	64.9	61.1	59.4	58.0	59.5	60.45	32.758	.760	. .
	56	Anon. 12h. 28m. 58s.	7.5	1	V.	161 49 60.3	64.9	63.7	63.1	56.9	59.8	61.45	28.502	.518	29.934
21	57	Mercury, centre . .	. .	1	V.	109 9 60.2	65.6	61.2	60.6	59.4	61.1	61.35	25.598	.604	30.090
	58	Anon. 11h. 0m. 43s.	8.0	1	V.	157 49 60.0	66.3	62.9	62.2	58.5	59.1	61.50	32.100	.114	30.166
	59	Lacaille 4614 . .	7.0	1	V.	" " "	"	"	"	"	"	"	25.561	.569	. .
	60	B. A. C. 3823 . .	7.0	1	V.	" " "	"	"	"	"	"	"	20.265	.284	. .
	61	Lacaille 4624 . .	8.0	1	IX.	" " "	"	"	"	"	"	"	42.458	.522	. .
	62	Lacaille 4687 . .	7.0	1	V.	161 39 59.7	64.0	61.9	61.0	57.5	59.0	60.52	32.483	.495	. .
	63	B. A. C. 8213, S. P.	. .	5	5–1.	35 29 60.2	65.7	63.0	64.5	59.6	61.8	62.47	33.018	.029	. .
	64	τ Cassiopeæ, S. P. .	. .	5	VII–III.	6 54 60.6	65.2	63.4	64.2	58.0	58.6	61.67	30.310	.367	30.174
	65	B. A. C. 8314, S. P.	. .	3	5–1.	22 34 59.0	65.1	62.3	62.3	58.3	59.2	61.03	29.618	.623	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	' "	' "	° ' "	° ' "	"		
1	. .	. .	29.962	+ 1 35.8	+ 2 28.5	158 44 3.3	− 29 50 24.1	+ 101.0	N.	
2	. .	. .	. .	− 1 38.2	2 26.9	158 30 48.6	29 37 9.4	101.7		
3	53.3	48.9	. .	+ 1 50.6	2 58.0	162 4 48.7	33 11 9.5	+ 103.1		
4										
5	. .	. .	. .	+ 50.4	53.7	132 36 44.0	3 43 4.8			
6	53.0	57.1	29.988	− 2 41.7	+ 46.6	131 18 4.7	− 2 24 25.5		Ha.	
7	55.5	60.7	. .	− 26.5	− 1 7.0	40 18 29.4	+ 88 35 9.8	− 82.5		Clouds at wires 2–4.
8	56.5	62.7	. .	+ 1 31.6	+ 28.7	120 11 57.2	7 57 39.7			
9	. .	. .	. .	− 23.7	28.1	119 40 1.8				An unusually good observation.
10										
11	57.5	63.9	. .	23.9	+ 24.4	115 49 59.9	13 3 39.3			
12	52.7	47.8	29.962	1 19.9	− 35.8	58 28 7.1	+ 70 25 32.1	+ 60.0	N.	
13	. .	. .	. .	1 48.2	+ 2 32.8	159 15 43.3	− 30 22 4.1	+ 90.9		
14	. .	. .	. .	− 2 36.6	− 2 42.6	19 34 41.4	+ 70 41 2.2	− 59.5		
15	52.5	46.5	. .	+ 2 15.0	+ 27.6	115 12 43.0	+ 13 40 56.2	+ 74.0		
16										
17	49.0	51.6	29.977	− 3 31.5	2 31.7	159 13 57.3	− 30 20 18.1	− 89.6		
18	. .	. .	. .	− 15.7	26.4	114 25 10.6	+ 14 28 28.6	79.0		
19	. .	. .	. .	+ 1 52.6	26.1	117 32 16.7	11 5 24.6			Mean of microscopes obtained by differences between these five and the corresponding five in the next line.
20	54.0	56.1	. .	− 1 14.4	+ 26.7	118 4 12.5				
21										
22	. .	. .	. .	+ 1 35.0	− 1 36.4	30 54 59.8	82 1 20.6	46.7		
23	55.4	51.2	. .	− 2 22.7	− 1 44.4	28 55 55.4	+ 80 2 16.2	− 47.0		
24	. .	. .	. .	1 42.7	+ 2 28.8	158 50 46.8	− 29 57 7.6	+ 87.9		
25	. .	49.6	. .	53.6	− 54.2	46 58 12.3	+ 81 55 26.9	55.8		Very steady.
26	54.8	49.4	. .	21.8	+ 2 26.0	158 27 4.1	− 29 33 24.9	89.4		
27	. .	. .	. .	− 48.0	4 21.6	167 48 33.8	− 38 54 54.6	96.2		Very faint; cloudy.
28	54.2	49.0	. .	+ 7.5	+ 28.8	116 20 35.3	+ 12 33 3.9	86.5		
29	. .	. .	. .	− 21.0	− 44.8	52 28 55.3	+ 76 24 43.9	72.1		
30										
31	. .	. .	. .	1 48.8	+ 2 24.8	158 10 36.3	− 29 16 57.1	101.6		
32	53.0	46.7	. .	− 1 11.3	1 46.9	151 25 35.2	22 31 56.0	+ 100.8		
33	. .	. .	. .	+ 2 29.2	+ 52.6	131 58 20.9	− 3 4 41.7			
34	52.0	46.0	. .	− 1 34.9	− 1 22.1	35 27 3.6	+ 86 33 24.4	− 78.5		
35	. .	. .	. .	+ 1 58.5	20 9.9	130 56 48.5	− 2 3 9.3			
36	51.7	45.5	. .	9.3	− 2 20.1	22 32 50.8	+ 73 39 11.6	78.8		
37	54.5	55.1	. .	1 11.9	+ 16 22.6	117 27 32.8	11 26 6.4		Ha.	
38	. .	. .	. .	+ 1 35.9	− 1 36.8	30 55 0.1	82 1 20.9	46.7		
39	53.0	48.9	. .	− 2 21.3	1 44.8	28 55 55.9	80 2 16.7	− 47.0		At 8h. 56m. 7s., 56m. 37s., and 57m. 7s.
40	. .	. .	. .	54.4	54.3	47 58 11.7	80 55 27.5	+ 55.6		
41	52.0	48.2	. .	50.3	− 2 48.6	18 51 22.0	+ 69 57 42.8	− 55.6		
42										
43	. .	. .	. .	6 54.2	+ 2 25.7	158 15 31.5	− 29 21 52.3	+ 101.7		
44	. .	. .	. .	44.3	2 26.6	158 21 42.3	29 28 3.1	101.7		
45	51.0	45.1	. .	− 5 59.4	+ 2 25.9	158 16 26.5	− 29 22 47.3	101.7		
46	. .	. .	. .	+ 1.1	− 25.6	66 24 36.8	+ 62 29 2.4	79.6		
47	. .	. .	. .	− 2 33.6	+ 18.7	107 37 45.5	+ 21 15 53.7	91.6		
48	. .	. .	. .	+ 8.5	4 17.4	167 29 26.2	− 38 35 47.0	104.2		
49	50.0	44.4	. .	− 1 2.8	4 15.5	167 23 12.6	38 29 43.4	104.4		
50	. .	. .	. .	+ 1 22.8	3 54.8	166 15 17.9	37 21 38.7	104.1		
51	. .	. .	. .	+ 0.5	4 5.1	166 49 6.1	37 55 26.9	103.1		
52	. .	. .	. .	− 1 53.3	3 1.8	162 16 8.0	33 22 28.8	102.3		
53	. .	. .	. .	− 18.2	2 23.6	157 52 5.6	28 58 26.4	101.3		
54	. .	. .	. .	+ 1 21.0	+ 2 28.1	158 28 49.7	29 35 10.5	101.1		
55	. .	. .	. .	− 1 27.2	− 23 15.3	135 15 17.9	6 21 38.7			
56	49.5	42.8	. .	+ 45.7	+ 2 58.0	161 53 45.1	− 33 0 5.9	100.1		
57	50.8	51.5	29.954	+ 2 16.3	17.7	109 12 35.3	+ 19 41 3.9		N.	
58	51.0	46.0	. .	− 1 7.7	2 23.8	157 51 17.6	− 28 57 38.4	102.7	Ha.	
59	. .	. .	. .	+ 2 17.4	2 24.3	157 54 43.2	29 1 4.0	102.8		
60	. .	. .	. .	+ 5 3.0	2 24.6	157 57 29.1	29 3 49.9	102.9		
61	. .	. .	. .	− 6 33.8	2 23.2	157 45 50.9	28 52 11.7	102.8		
62	. .	. .	. .	1 19.6	+ 2 56.3	161 41 37.2	− 32 47 58.0	+ 103.7		
63	. .	. .	. .	1 36.3	− 1 22.9	35 27 3.2	+ 86 33 24.0	− 77.7		
64	51.0	44.5	. .	− 12.9	7 36.6	6 47 12.1	57 53 32.9	77.3		
65	. .	. .	. .	+ 10.4	− 2 21.6	22 32 49.8	+ 73 39 10.6	− 78.2		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
April 21	1	4 Draconis	. .	3	IV-VI.	50 29 59.2	64.8	63.0	61.8	59.1	62.0	61.65	25.880	.869	. .
	2	Lacaille 5126	7.5	1	V.	165 34 59.7	65.6	61.6	62.5	58.1	59.0	61.08	31.168	.185	. .
	3	Lacaille 5198	7.0	1	V.	158 9 60.0	64.2	61.8	61.0	57.1	57.4	60.25	31.575	.582	. .
	4	α Canum Venat., (1st *)	. .	5	I-IX.	89 49 59.6	66.0	62.5	62.0	59.4	61.8	61.88	28.414	.409	. .
	5	α Canum Venat., (2d *)	. .	4	II-VIII.	" " "	"	"	"	"	"	"	28.864	.852	30.184
	6	Saturn	. .	5	III-VII.	131 39 59.5	63.4	59.9	60.0	56.0	57.8	59.43	33.083	.096	. .
	7	Polaris, S. P.	. .	5	5-1.	37 29 59.8	65.8	64.2	64.6	60.1	60.3	62.47	29.917	.926	. .
	8	Nadir	. .	4	. .	269 59 59.9	64.7	61.0	61.6	58.8	59.8	60.96*d*	29.981	.989	. .
	9	η Ursæ Majoris, (Ref.)	. .	4	I-IV.	281 4 60.0	66.1	62.8	60.9	59.1	59.8	61.45	28.876	.892	. .
	10	η Ursæ Majoris	. .	4	VI-IX.	78 54 60.3	67.0	65.2	65.1	61.8	64.1	63.92	31.200	.205	. .
	11	Moon, S. L.	. .	5	III-VII.	144 4 59.2	64.0	60.7	60.0	57.4	57.4	59.78	34.476	.490	30.190
	12	Venus	. .	5	III-VII.	126 29 60.5	66.0	60.6	60.6	59.8	59.6	61.18	27.933	.938	30.290
22	13	Sun S. L.	. .	4	I-IV.	116 39 59.8	63.7	59.6	57.9	58.5	58.9	59.73	25.890	.888	. .
	14	Sun N. L.	. .	4	VI-IX.	116 9 57.6	62.5	56.7	56.4	56.5	58.3	58.00	29.297	.311	30.266
	15	Polaris, S. P.	. .	4	4½-V.	37 29 59.4	60.9	61.5	59.1	58.6	61.1	60.10	29.925	.934	. .
	16	Polaris, S. P., (Ref.)	. .	5	. .	322 29 59.8	61.2	60.6	55.8	57.3	58.7	58.90	29.966	.962	30.197
	17	*k* Virginis	. .	5	I-IX.	138 19 59.4	61.3	59.1	56.9	57.5	59.3	58.92	28.797	.802	. .
	18	Lacaille 5655	. .	5	III-VII.	158 19 60.0	63.1	61.6	58.6	57.5	59.1	59.98	27.692	.708	30.186
	19	Lalande 25635	. .	5	I-IX.	151 14 60.1	62.4	61.1	58.9	57.9	60.3	60.12	32.793	.804	. .
	20	Anon. 13h. 54m. 21s.	. .	1	V.	164 24 61.4	64.0	62.6	61.1	58.9	62.5	61.75	36.402	.418	. .
	21	α Bootis	. .	4	I-IV.	108 59 61.1	64.6	60.5	58.4	58.5	63.0	61.02	29.995	.979	. .
	22	α Bootis, (Ref.)	. .	4	VI-IX.	250 59 61.5	63.0	63.1	60.2	61.6	65.5	62.48	30.039	.075	30.170
	23	Nadir 14h. 20m.	. .	4	. .	269 59 60.7	62.2	60.2	58.5	58.3	62.0	60.32	29.950	.959	. .
23	24	Sun N. L.	. .	4	I-IV.	115 49 61.9	66.3	58.0	59.8	60.8	66.0	62.13	29.196	.208	30.138
	25	Sun S. L.	. .	4	VI-IX.	116 24 60.9	65.0	58.0	58.6	59.9	65.0	61.23	35.315	.329	. .
	26	Weisse X, 94	9.0	1	V.	116 29 59.1	58.1	52.9	50.0	55.4	62.3	56.30	26.441	.455	. .
	27	Weisse X, 116	7.5	3	IV-VI.	" " "	"	"	"	"	"	"	24.970	.976	30.072
	28	Lalande 19981	9.0	1	VI.	116 49 58.7	57.6	52.5	50.0	54.9	61.9	55.93	18.938	.951	. .
	29	Weisse X, 209	7.5	1	V.	" " "	"	"	"	"	"	"	27.234	.253	. .
	30	Nadir 11h. 45m.	. .	5	. .	269 59 57.2	56.9	52.5	51.3	54.8	61.1	55.63	29.825	.836	. .
	31	Lacaille 4976	7.5	9	I-IX.	162 9 60.0	58.7	57.2	54.0	55.8	62.0	57.95	32.347	.379	30.080
	32	Lacaille 5042	7.5	1	V.	161 34 60.8	59.0	58.0	54.0	55.4	62.6	58.30	29.848	.850	. .
	33	Lacaille 5088	7.0	5	III-VII.	164 9 60.5	60.9	58.2	54.5	57.2	63.0	59.05	27.977	.990	. .
	34	Anon. 12h. 16m. 59s.	8.0	1	V.	154 4 61.1	60.2	58.9	53.1	57.2	63.0	58.92	24.889	.893	. .
	35	Lacaille 5143	7.0	5	III-VII.	" " "	"	"	"	"	"	"	27.798	.803	. .
	36	Anon. 12h. 28m. 54s.	7.5	1	V.	161 44 61.1	60.4	59.0	56.0	57.1	64.2	59.63	18.572	.579	. .
	37	α Canum Venat.	. .	5	III-VII.	89 49 61.1	61.2	58.8	54.2	59.3	66.2	60.13	28.851	.847	. .
	38	Saturn S. L.	. .	5	I-IX.	131 34 60.7	59.0	55.8	52.7	56.0	62.1	57.72	29.030	.041	. .
	39	Saturn N. L.	. .	4	II-VIII.	" " "	"	"	"	"	"	"	29.552	.562	. .
	40	Polaris, S. P.	. .	5	5-1.	37 29 61.1	59.5	59.7	56.3	59.0	64.5	60.02	29.959	.970	30.080
25	41	Sun S. L.	. .	4	I-IV.	115 44 57.4	57.5	55.1	52.7	53.5	61.2	56.23	33.338	.349	. .
	42	Sun N. L.	. .	4	VI-IX.	115 9 60.3	61.9	58.6	56.4	56.4	63.1	59.45	27.407	.418	29.838
	43	Mercury	. .	5	I-IX.	107 19 60.4	63.4	60.2	56.2	58.5	63.2	60.32	35.257	.266	29.830
	44	Nadir 9h. 10m.	. .	5	. .	269 59 60.7	56.0	56.8	53.6	54.7	62.4	57.37*d*	29.849	.860	. .
	45	β Cephei, S. P.	. .	5	VII-III.	18 54 61.3	58.3	60.7	57.3	56.0	61.0	59.10	31.655	.680	29.849
	46	Lacaille 4026	. .	5	I-IX.	154 39 62.0	58.8	58.9	53.9	55.0	61.6	58.37	31.390	.418	. .
	47	Anon. 9h. 50m. 19s.	7.5	2	VIII, IX.	167 44 61.0	58.9	60.9	56.9	55.9	61.0	59.10	31.045	.109	. .
	48	Anon. 9h. 58m. 0s.	7.0	5	I-IX.	167 24 61.3	59.3	60.1	57.6	55.8	60.4	59.08	25.343	.381	29.849
	49	B. A. C. 3495	4.7	5	1-5.	43 59 60.7	58.6	61.0	58.0	56.7	65.1	60.02	33.378	.394	. .
	50	Anon. 10h. 28m. 28s.	8.3	1	V.	166 14 63.0	61.5	61.6	59.6	57.0	63.5	61.03	28.116	.131	. .
	51	B. A. C. 7990, S. P.	4.5	3	5-1.	31 19 61.1	59.9	62.3	59.3	57.7	64.5	60.80	27.932	.937	29.856
	52	Lacaille 4596	6.8	5	III-VII.	158 39 61.1	60.2	60.6	57.0	54.9	61.0	59.13	28.426	.445	. .
	53	B. A. C. 3921	6.0	3	III-VII.	157 19 61.6	59.9	60.1	57.5	55.9	61.4	59.40	24.354	.377	29.854
	54	B. A. C. 3922	5.8	2	IV, VI.	" " "	"	"	"	"	"	"	24.635	.643	. .
	55	Lacaille 4882	8.0	1	V.	162 49 61.9	60.1	60.5	57.6	55.0	62.2	59.55	28.266	.285	. .
	56	B. A. C. 4009	5.3	5	III-VII.	158 54 61.5	60.1	61.2	58.4	54.8	61.0	59.50	28.653	.661	. .
	57	Lacaille 4967	6.8:	5	III-VII.	158 9 62.5	61.1	61.6	58.2	55.5	61.2	60.02	30.106	.124	. .
26	58	Sun N. L.	. .	4	I-IV.	114 49 61.8	66.3	62.2	62.8	58.1	63.3	62.42	26.092	.099	29.902
	59	Sun S. L.	. .	2	VIII, IX.	115 24 61.5	64.8	60.6	60.0	57.2	64.1	61.37	32.214	.224	. .
	60	Nadir	. .	3	. .	269 59 62.1	62.9	61.6	60.8	57.1	63.6	61.35	29.933	.944	. .
	61	45 Leonis	7.0	1	V.	118 24 62.8	64.1	58.8	59.7	55.2	62.9	60.58	27.811	.812	29.930
	62	Lacaille 4340	7.5	1	V.	155 29 59.2	59.8	59.1	57.2	53.5	57.2	57.67	28.109	.123	. .
	63	B. A. C. 3638	6.5	1	V.	" " "	"	"	"	"	"	"	21.180	.197	. .
	63	37 Sextantis	6.0	1	V.	121 49 59.9	61.0	58.1	58.3	53.6	59.1	58.33	33.771	.772	. .
	65	Weisse X, 703	7.0	1	V.	" " "	"	"	"	"	"	"	30.766	.767	. .
	66	Lacaille 4516	7.0	1	V.	155 9 60.4	62.5	60.1	59.5	55.0	59.7	59.53	35.149	.165	29.936
	67	χ Leonis	7.0	1	V.	120 49 58.6	59.9	57.5	56.8	53.7	58.4	57.48	31.550	.559	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.954	+ 2 8.0	− 48.8	50 31 20.8	+ 78 22 18.4	+ 82.1	Ha.	
2	. .	. .	. .	− 38.6	+ 3 46.8	165 38 9.2	− 36 44 30.0	101.9		
3	. .	. .	. .	− 51.0	+ 2 27.0	158 11 36.2	− 29 17 57.0	100.4		
4	. .	. .	. .	+ 48.4	− 0.2	89 50 50.0	+ 39 2 49.2	88.6		
5	50.0	43.3	. .	+ 34.5	− 0.2	89 50 36.1	+ 39 3 3.1	+ 88.6		
6	. .	. .	. .	− 1 38.4	+ 52.2	131 39 13.2	− 2 45 34.0			
7	. .	. .	. .	+ 0.9	− 1 17.4	37 28 45.9	+ 88 35 6.7	− 79.6		
8										
9	. .	. .	. .	+ 33.3	+ 11.7	281 5 46.4	49 59 25.7	+ 82.0		
10	. .	. .	. .	− 39.2	− 11.7	78 54 13.0	+ 49 59 26.2			
11	49.0	42.0	. .	− 2 22.1	− 59 29.2	143 3 8.4	− 14 9 29.2			
12	52.5	60.1	. .	+ 1 3.2	+ 39.4	126 31 43.7	+ 2 21 55.5		N.	
13	. .	. .	. .	2 7.4	25.0	116 42 32.1	12 27 1.9			
14	54.5	63.4	. .	20.2	+ 24.4	116 10 42.6				
15	. .	. .	. .	+ 0.6	− 1 16.2	37 28 44.5	88 35 5.3	− 79.2		
16	55.0	50.9	. .	− 0.2	+ 1 16.2	322 31 14.8	+ 88 35 5.9			From 13h. 10m. till 13h. 13m. 20s.
17	. .	. .	. .	+ 36.1	1 5.7	138 21 40.7	− 9 28 1.5	+ 90.3		
18	54.8	50.5	. .	+ 1 10.4	2 26.5	158 23 36.8	29 29 57.6	89.0		
19	. .	. .	. .	− 1 29.3	1 46.3	151 15 17.1	22 21 37.9	85.6		
20	. .	. .	. .	3 22.5	3 26.2	164 25 5.4	− 35 31 26.2	84.3		Very faint; observation uncertain by 2″ or 3″.
21	. .	. .	. .	0.8	+ 20.2	109 0 20.4	+ 19 53 18.8	80.0		
22	54.0	50.2	. .	− 3.8	− 20.2	250 59 38.4	19 53 17.7			Good.
23										
24	60.0	74.5	29.975	+ 24.0	+ 23.3	115 50 49.4	12 46 55.8		Ha.	
25	. .	. .	. .	− 2 47.7	23.9	116 22 37.4				
26	. .	. .	. .	+ 1 50.3	28.2	116 32 14.8	12 21 24.4	86.0		
27	67.5	67.1	. .	2 36.6	28.2	116 33 1.1	12 20 38.1	86.2		
28	. .	. .	. .	5 45.4	28.7	116 56 10.0	11 57 29.2	86.7		
29	. .	67.1	. .	+ 1 25.3	28.6	116 51 49.8	+ 12 1 49.4	87.2		
30										Very uncertain, owing to tremendous gale.
31	65.5	64.8	. .	− 1 15.3	2 54.0	162 11 36.6	− 33 17 57.4	103.5		
32	. .	. .	. .	+ 3.9	2 48.6	161 37 50.8	32 44 11.6	103.0		
33	. .	. .	. .	1 2.2	3 17.3	164 14 18.5	35 20 39.3	102.6		
34	. .	. .	. .	2 39.2	1 56.5	154 9 34.6	25 15 55.4	101.1		
35	. .	. .	. .	1 8.1	1 56.3	154 8 3.3	25 14 24.1	101.0		
36	. .	. .	. .	5 57.1	+ 2 51.3	161 53 48.0	− 33 0 8.8	100.6		
37	. .	. .	. .	35.3	− 0.2	89 50 35.2	+ 39 3 4.0	+ 88.1		
38	. .	. .	. .	29.3	+ 49.8	131 36 16.8	− 2 42 29.4			
39	. .	. .	. .	12.9	+ 49.8	131 36 0.4				
40	65.0	63.3	. .	+ 0.2	− 1 14.0	37 28 46.2	+ 88 35 7.0	− 78.9		
41	. .	. .	29.944	− 1 46.7	+ 23.2	115 43 32.7	13 26 2.2		N.	
42	65.5	68.1	. .	+ 1 19.2	22.7	115 11 41.3				
43	66.5	70.7	. .	− 2 46.8	+ 14.7	107 17 28.2	21 36 11.0			
44										
45	67.3	65.1	. .	55.4	− 2 42.6	18 51 22.1	+ 69 57 42.9	− 55.5		Very unsteady.
46	. .	. .	. .	46.2	+ 1 58.3	154 41 10.4	− 25 47 31.2	+ 92.8		
47	. .	. .	. .	− 36.5	4 13.0	167 48 35.6	38 54 56.4	97.0		
48	66.8	63.6	. .	+ 2 23.0	+ 4 7.6	167 31 29.6	− 38 37 50.4	98.2		
49	. .	. .	. .	− 1 48.1	− 58.5	43 57 13.4	+ 84 56 25.8	66.6		
50	. .	. .	. .	+ 56.8	+ 3 47.0	166 19 44.8	− 37 26 5.6	+ 102.1		
51	66.0	60.9	. .	1 2.9	− 1 32.8	31 19 30.9	+ 82 25 51.7	− 71.9		
52	. .	. .	. .	47.0	+ 2 24.2	158 43 10.3	− 29 49 31.1	+ 103.3		
53	65.5	61.1	. .	2 54.4	2 15.2	157 25 9.0	28 31 29.8	104.0		Double star.
54	. .	. .	. .	2 46.1	2 15.2	157 25 0.7	28 31 21.5	104.0		
55	. .	. .	. .	52.0	3 1.5	162 53 53.0	34 0 13.8	104.6		
56	. .	. .	. .	+ 40.2	2 26.0	158 58 5.7	30 4 26.5	103.8		
57	. .	. .	. .	− 5.6	2 20.5	158 12 14.9	− 29 18 35.7	103.5		
58	63.0	63.1	29.909	+ 1 59.4	22.6	114 52 24.4	+ 13 45 21.0		Ha.	
59	. .	. .	. .	− 1 12.5	23.2	115 24 12.0				
60										
61	61.5	56.2	. .	+ 1 5.7	31.1	118 26 37.3	+ 10 27 1.9	88.8		
62	. .	. .	. .	56.0	2 5.4	155 32 59.0	− 26 39 19.8	100.0		
63	. .	. .	. .	+ 4 33.0	2 5.8	155 36 36.4	− 26 42 57.2	100.2		
64	. .	. .	. .	− 2 1.0	35.6	121 48 32.9	+ 7 5 6.3	92.3		
65	. .	. .	. .	26.9	35.7	121 50 7.1	+ 7 3 32.1	102.6		
66	61.0	55.3	. .	2 44.7	2 3.3	155 9 18.1	− 26 15 38.9	102.0		
67	.	. .	. .	− 51.7	+ 34.3	120 49 40.0	+ 8 3 59.2	+ 94.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
April 26	1	δ Leonis	. .	5	I-IX.	107 39 59.8	62.0	60.7	58.6	55.1	60.6	59.47	34.810	.806	. .
	2	δ Hydræ et Crateris	. .	5	I-IX.	142 54 60.0	61.1	60.4	59.0	54.6	59.5	59.10	29.259	.284	. .
	3	83 Leonis	8.0	1	V.	125 9 60.9	63.1	61.8	59.1	56.0	61.0	60.32	33.740	.741	. .
	4	τ Leonis	6.0	1	V.	“ “ “	“	“	“	“	“	“	16.602	.608	. .
	5	υ Leonis	. .	1	V.	128 59 60.9	62.0	59.2	58.9	55.2	61.1	59.55	34.605	.611	. .
	6	B. A. C. 3975	7.0	1	V.	134 49 58.0	61.0	58.2	57.1	53.9	59.2	57.90	33.150	.166	29.932
27	7	Sun S. L.	. .	4	I-IV.	115 4 61.8	61.5	58.2	58.4	56.4	65.0	60.22	30.334	.346	. .
	8	Sun N. L.	. .	4	VI-IX.	114 34 60.4	61.8	58.3	58.7	56.2	64.0	59.90	33.785	.781	29.880
	9	Mercury	. .	5	I-IX.	106 34 60.1	63.0	58.9	58.1	57.9	63.9	60.32	30.064	.066	29.836
	10	Venus, centre	. .	5	III-VII.	123 39 60.0	67.7	64.9	64.0	56.9	58.1	61.93	29.990	.997	29.980
28	11	Sun N. L.	. .	4	I-IV.	114 14 60.0	67.8	64.3	64.0	59.0	60.2	62.55	31.651	.647	. .
	12	Sun S. L.	. .	4	VI-IX.	114 44 57.0	64.5	61.0	60.3	56.0	57.2	59.33	28.051	.057	29.980
	13	Lacaille 4668	7.0	1	V.	166 29 56.9	62.3	61.3	63.0	54.4	54.9	58.80	46.795	.796	30.116
	14	Lacaille 4680	7.0	1	V.	“ “ “	“	“	“	“	“	“	30.670	.673	. .
	15	Lacaille 4761	7.0	1	V.	153 59 55.7	60.5	60.3	59.4	52.0	53.0	56.82	39.386	.403	. .
	16	Anon. 11h. 33m. 31s.	7.0	1	V.	156 34 59.9	64.1	62.2	63.6	55.2	56.4	60.23	27.347	.365	. .
	17	Anon. 11h. 45m. 28s.	7.5	1	V.	165 49 55.8	61.1	59.5	60.9	52.2	52.8	57.05	29.918	.923	. .
	18	B. A. C. 4023	6.0	1	V.	“ “ “	“	“	“	“	“	“	30.044	.055	30.138
	19	Nadir 12h. 10m.	. .	3	. .	269 59 60.2	65.8	63.1	65.0	57.1	58.7	61.65	29.960	.970	. .
	20	Saturn N. L.	. .	3	I-IX.	131 29 60.0	65.9	63.0	63.8	56.0	57.1	60.97	34.136	.151	30.146
	21	Saturn S. L.	. .	2	III, VII.	“ “ “	“	“	“	“	“	“	33.591	.597	. .
	22	Polaris, S. P.	. .	5	5-1.	37 29 60.3	66.7	66.4	67.8	59.0	58.9	63.18	29.988	.001	. .
	23	α Virginis	. .	2	VI, IX.	139 19 60.5	66.5	63.7	66.1	58.0	56.0	61.80	30.381	.418	. .
	24	Anon. 13h. 29m. 45s.	7.0	1	V.	164 44 59.8	66.0	65.0	66.6	57.4	57.4	62.03	36.886	.890	. .
	25	Anon. 13h. 36m. 25s.	7.5	1	V.	“ “ “	“	“	“	“	“	“	34.331	.350	. .
	26	Lacaille 5686	. .	1	V.	156 29 59.8	64.7	63.2	64.3	55.9	56.4	60.72	24.551	.560	. .
	27	O. Arg. S. 13177	7.5	1	V.	“ “ “	“	“	“	“	“	“	30.908	.912	. .
	28	O. Arg. S. 13182	7.5	1	VI.	“ “ “	“	“	“	“	“	“	36.360	.388	30.148
	29	Venus	. .	5	III-VII.	123 9 61.3	66.6	64.9	66.1	58.0	59.3	62.70	26.765	.765	30.201
29	30	Sun S. L.	. .	4	I-IV.	114 24 62.5	68.0	65.9	66.0	61.5	61.6	64.25	25.510	.513	. .
	31	Sun N. L.	. .	4	VI-IX.	113 54 63.5	69.2	66.8	67.1	62.8	62.3	65.28	28.961	.963	30.196
	32	Nadir 2h. 50m.	. .	5	. .	269 59 60.5	63.2	61.5	62.0	58.6	59.5	60.88*d*	29.959	.970	. .
	33	1 (Hev.) Draconis	. .	6	VI-VII.	46 59 55.1	56.0	57.7	54.1	55.6	55.5	55.67	31.593	.542	30.150
	34	β Cephei, S. P.	. .	4	IV-I.	18 54 57.3	58.5	60.4	57.8	56.2	54.7	57.48	31.442	.538	. .
	35	Lacaille 4389	7.2	1	V.	161 44 58.9	60.1	61.9	59.3	55.5	58.1	58.97	28.933	.938	30.150
	36	ι Cephei, S. P.	. .	5	VII-III.	14 24 59.8	62.0	62.8	60.0	58.0	57.5	60.02	27.320	.356	. .
	37	B. A. C. 7990, S. P.	4.3	1	1	31 19 60.8	62.5	64.0	62.2	60.5	60.8	61.80	27.963	.969	. .
	38	Lacaille 4580	5.7	3	IV-VI.	163 59 60.6	61.9	63.0	59.5	57.9	59.0	60.32	39.247	.268	30.159
	39	Lacaille 4630	7.7	5	III-VII.	154 9 60.5	61.9	62.0	58.6	57.1	58.4	59.75	34.789	.793	. .
	40	Lacaille 4638	7.3	1	V.	“ “ “	“	“	“	“	“	“	18.804	.805	. .
	41	Lacaille 4655	8.0	5	III-VII.	“ “ “	“	“	“	“	“	“	25.875	.880	. .
	42	Lacaille 4710	. .	5	III-VII.	163 49 60.3	61.2	63.0	58.7	57.8	58.3	59.88	31.456	.475	. .
	43	B. A. C. 8213, S. P.	. .	5	5-1.	35 29 59.7	61.4	62.5	60.9	58.1	59.0	60.27	33.037	.050	30.159
	44	γ Cephei, S. P.	3.0	3	5-1.	25 49 61.2	64.6	65.6	62.7	60.2	60.6	62.48	33.905	.909	. .
	45	B. A. C. 3988	7.0	5	III-VII.	158 24 61.2	63.0	63.5	61.1	57.5	58.5	60.80	33.840	.846	. .
	46	Lacaille 4930	8.0	5	III-VII.	164 4 60.2	61.8	62.4	59.6	57.6	58.6	60.03	30.281	.305	. .
	47	Lacaille 4955	7.2	5	III-VII.	155 44 60.1	61.2	61.0	57.6	56.7	56.9	58.92	25.149	.169	. .
	48	4 Draconis	. .	3	III-V.	50 29 60.5	61.8	63.6	60.8	59.4	62.6	61.45	25.929	.896	. .
	49	4 Draconis, (Ref.)	. .	1	VI.	309 29 59.2	61.5	61.0	55.0	56.8	56.9	58.40	33.949	.986	30.160
	50	20 Comæ Berenicis	6.0	4	I-IV.	107 14 59.7	62.5	62.1	57.1	58.0	58.0	59.57	30.770	.745	. .
	51	20 Comæ Berenicis, (Ref.)	. .	4	VI-IX.	252 44 60.7	62.3	63.4	60.5	59.5	62.1	61.42	29.170	.212	. .
	52	Nadir 12h. 35m.	. .	3	. .	269 59 60.9	62.7	61.6	60.5	59.8	60.4	60.98	29.958	.969	. .
	53	Lacaille 5295	7.7	1	V.	158 39 61.6	65.1	64.5	61.2	59.4	58.9	61.78	26.774	.775	. .
	54	Anon. 12h. 46m. 41s.	7.5	1	V.	167 19 61.3	63.9	63.1	60.8	59.0	58.5	61.10	18.811	.812	. .
	55	Saturn	. .	5	III-VII.	131 24 60.7	62.0	61.0	58.3	57.0	57.8	59.47	26.878	.881	30.161
	56	Anon. 13h. 4m. 10s.	8.5	5	III-VII.	165 29 60.9	63.5	63.0	61.7	58.9	58.8	61.13	28.743	.749	. .
	57	Polaris, S. P.	. .	5	2-1.	37 29 61.1	63.3	64.6	63.6	60.2	61.0	62.30	30.024	.039	30.156
	58	α Virginis	. .	5	I-IX.	139 19 61.0	63.1	61.0	60.6	58.5	58.0	60.37	30.285	.308	. .
	59	A Cassiopeæ, S. P.	. .	4	IV-I.	18 29 60.1	61.8	63.5	62.9	58.6	57.5	60.73	29.344	.443	. .
	60	Weisse XIII, 461	8.8	1	V.	121 39 60.1	62.5	61.3	59.5	57.1	57.7	59.70	21.834	.836	. .
	61	Weisse XIII, 472	9.3	1	VI.	“ “ “	“	“	“	“	“	“	28.270	.296	. .
	62	Lacaille 5663	6.0	1	V.	153 39 60.9	62.7	62.8	60.4	56.8	58.6	60.37	28.299	.318	. .
	63	Lacaille 5710	. .	5	I-IX.	152 34 60.8	62.4	63.5	60.6	57.1	58.9	60.55	31.324	.354	30.150
May 2	64	Sun N. L.	. .	3	II-IV.	112 59 61.7	64.2	62.5	60.9	59.6	61.7	61.77	27.287	.300	. .
	65	Sun S. L.	. .	3	VII-IX.	113 34 59.6	62.8	60.4	59.0	57.2	59.8	59.80	33.545	.546	29.773

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.909	− 2 33.4	+ 18.3	107 37 44.3	+ 21 15 54.9	+ 90.9	Ha.	
2	. .	. .	. .	+ 19.6	1 16.1	142 56 34.8	− 14 2 55.5	100.8		
3	. .	. .	. .	− 2 0.1	40.5	125 8 40.7	+ 3 44 58.5	96.7		
4	. .	. .	. .	+ 6 56.8	40.8	125 17 37.9	+ 3 36 1.3	96.8		
5	. .	. .	. .	− 2 27.3	46.6	128 58 18.8	− 0 4 39.6	98.0		
6	60.5	53.8	. .	1 42.1	57.2	134 49 13.0	− 5 55 33.8	99.5		
7	. .	. .	. .	13.7	22.5	115 5 9.0	+ 14 4 24.4		N.	
8	65.5	69.5	. .	2 1.3	22.0	114 33 20.6				
9	65.5	73.0	. .	4.9	13.8	106 35 9.2	22 18 30.0			
10	53.5	51.5	. .	2.1	35.7	123 40 35.5	5 13 3.7		Ha.	
11	. .	. .	. .	− 54.5	22.5	114 14 30.5	+ 14 23 13.8			
12	58.0	54.7	. .	+ 58.0	23.1	114 46 20.3				
13	52.0	46.0	. .	− 8 49.2	3 58.3	166 25 7.9	− 37 31 28.7	105.3		
14	. .	. .	. .	23.9	4 0.8	166 33 35.7	37 39 56.5	105.4		
15	. .	. .	. .	− 4 57.5	2 0.0	153 56 59.3	25 3 20.1	103.5		
16	. .	. .	. .	+ 1 19.7	2 15.8	156 38 35.7	27 44 56.5	104.0		
17	. .	. .	. .	− 0.4	3 50.2	165 53 46.8	37 0 7.6	105.2		
18	52.0	44.6	. .	4.6	3 50.2	165 53 42.6	37 0 3.4	+ 105.1		
19										Uncertain.
20	51.5	43.0	. .	2 12.9	51.8	131 28 39.8	− 2 35 9.2			
21	. .	. .	. .	1 55.6	+ 51.8	131 28 57.1				Planet very unsteady.
22	. .	. .	. .	2.9	− 1 17.3	37 28 42.9	+ 88 35 3.6	− 77.7		
23	. .	. .	. .	15.9	+ 1 9.1	139 20 55.0	− 10 27 15.8	+ 92.0		
24	. .	. .	. .	2 4.8	3 34.5	164 46 31.7	35 52 52.5	91.3		
25	. .	. .	. .	− 2 19.2	3 34.6	164 46 17.4	35 52 38.2	89.8		
26	. .	. .	. .	+ 2 47.6	2 16.5	156 35 4.8	27 41 25.6	88.4		
27	. .	. .	. .	− 31.4	2 16.1	156 31 45.4	27 38 6.2	88.1		
28	50.5	41.3	. .	− 3 23.0	2 15.9	156 28 53.6	− 27 35 14.4	88.0		
29	52.5	53.0	29.942	+ 1 39.5	35.2	123 12 17.4	+ 5 41 21.8		N.	Excessively bad image. Observation hardly worth anything.
30	. .	. .	. .	2 18.8	22.7	114 27 45.7	14 41 47.3			
31	55.0	58.3	. .	+ 30.7	+ 22.2	113 55 58.1				
32										
33	. .	56.9	. .	− 50.1	− 53.8	46 58 11.7	81 55 27.5	+ 55.1		
34	. .	. .	. .	− 50.0	− 2 47.1	18 51 20.3	+ 69 57 41.0	− 55.5		Good.
35	58.0	55.0	. .	+ 31.5	+ 2 54.0	161 48 24.4	− 32 54 45.2	+ 102.2		
36	. .	. .	. .	1 21.1	− 3 41.4	14 22 39.7	+ 65 29 0.4	− 70.7		Unsteady.
37	. .	. .	. .	+ 1 1.8	− 1 35.0	31 19 28.6	+ 82 25 49.3	− 71.4		
38	57.6	54.0	. .	− 4 52.2	+ 3 18.8	163 58 26.9	− 35 4 47.7	+ 104.6		
39	. .	. .	. .	− 2 32.0	1 59.2	154 9 26.9	25 15 47.7	103.0		
40	. .	. .	. .	+ 5 48.9	2 0.0	154 17 48.6	25 24 9.4	103.1		
41	. .	.	. .	2 7.3	1 59.7	154 14 6.7	25 20 27.5	103.2		
42	. .	. .	. .	+ 48.0	+ 3 18.0	163 54 5.8	− 35 0 26.6	+ 105.2		
43	57.0	53.0	. .	− 1 37.4	− 1 21.5	35 27 1.3	+ 86 33 22.0	− 76.2		
44	. .	. .	. .	2 4.3	− 1 59.9	25 45 58.2	+ 76 52 18.9	− 76.1		Good.
45	. .	. .	. .	2 2.3	+ 2 26.0	158 25 24.5	− 29 31 45.3	+ 104.4		
46	. .	. .	. .	− 11.4	3 21.6	164 8 10.2	35 14 31.0	105.0		
47	. .	. .	. .	+ 2 29.6	+ 2 9.0	155 49 37.5	− 26 55 58.3	103.6		
48	. .	. .	. .	+ 2 6.8	− 48.0	50 31 20.2	+ 78 22 19.0	80.3		Much blurred.
49	56.3	51.4	. .	− 2 6.7	+ 48.0	309 28 39.7	78 22 18.9			Fair reading.
50	. .	. .	. .	− 25.2	+ 18.1	107 14 52.4	21 38 46.8	92.2		
51	. .	. .	. .	+ 22.9	− 18.1	252 45 6.2	+ 21 38 45.4			
52										
53	. .	. .	. .	1 39.2	+ 2 29.0	158 44 9.9	− 29 50 30.7	99.5		
54	. .	. .	. .	5 48.7	4 16.7	167 30 6.5	38 36 27.3	99.7		
55	55.7	49.9	. .	1 35.9	51.0	131 27 26.3	2 33 47.1			
56	. .	. .	. .	+ 37.4	+ 3 42.9	165 34 21.4	− 36 40 42.2	+ 96.7		
57	55.5	49.8	. .	− 3.0	− 1 16.2	37 28 43.1	+ 88 35 3.8	− 77.4		
58	. .	. .	. .	− 11.5	+ 1 8.2	139 20 57.0	− 10 27 17.8	+ 92.3		
59	. .	. .	. .	+ 15.6	− 2 53.4	18 27 22.9	+ 69 33 43.6	− 74.9		
60	. .	. .	. .	4 14.0	+ 36.3	121 44 50.0	7 8 49.2	+ 88.1		
61	.	. .	. .	51.6	36.2	121 41 27.5	+ 7 12 11.7	88.1		
62	. .	. .	. .	+ 50.9	1 58.1	153 42 49.3	− 24 49 10.1	89.8		
63	55.0	48.7	. .	− 44.3	1 52.6	152 36 8.8	− 23 42 29.6	+ 87.8		
64	. .	. .	. .	+ 1 22.8	20.5	113 1 45.0	+ 15 36 2.8			
65	60.0	65.3	. .	− 1 52.9	+ 21.0	113 33 27.9				Very good, but interrupted by clouds.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
May 4	1	Sun S. L.	. .	4	I–IV.	112 59 59.5	64.2	60.8	61.5	57.9	61.5	60.90	33.312	.321	. .
	2	Sun N. L.	. .	4	VI–IX.	112 24 60.1	63.5	59.3	59.9	58.8	61.0	60.43	27.079	.088	30.113
	3	Mercury	. .	3	III–VII.	105 24 59.3	65.5	61.6	61.0	61.6	62.5	61.92	33.847	.845	30.108
	4	B. A. C. 3593	. .	3	1–5.	52 29 59.1	60.3	62.9	59.6	58.6	62.9	60.57	30.734	.734	. .
	5	B. A. C. 7851, S. P.	. .	5	. .	34 19 59.3	62.3	63.5	60.6	58.4	61.3	60.90	29.474	.489	30.132
	6	Lacaille 4406	7.5	5	III–VII.	154 9 59.3	59.9	59.9	56.5	55.4	58.2	58.20	25.516	.530	. .
	7	ι Cephei, S. P.	. .	3	VI–IV.	14 24 59.6	61.5	62.8	59.1	58.0	59.0	60.00	27.361	.384	. .
	8	B. A. C. 7990, S. P.	. .	3	5–1.	31 19 59.9	60.9	62.6	60.3	59.2	61.1	60.67	27.960	.968	30.139
	9	Nadir 11h. 5m.	. .	3	. .	269 59 59.5	60.4	59.6	57.5	57.8	59.6	59.07	29.907	.918	. .
	10	Lacaille 4725	7.7	5	III–VII.	156 59 60.8	61.8	61.8	58.2	57.6	58.9	59.85	28.246	.269	. .
	11	Lacaille 4761	7.0:	5	III–VII.	153 59 61.0	62.5	63.4	58.5	57.5	59.3	60.37	39.439	.457	. .
	12	O. Arg. S. 11444	8.0:	1	VII.	" " "	"	"	"	"	"	"	27.869	.919	. .
	13	B. A. C. 3974	6.3	1	V.	165 19 60.7	62.4	61.6	59.2	58.3	59.2	60.23	36.528	.538	30.152
	14	B. A. C. 4025	7.2	1	V.	129 34 60.2	61.5	60.0	57.9	56.9	59.4	59.32	31.619	.624	. .
	15	Anon. 11h. 54m. 7s.	7.8	5	III–VII.	154 34 60.5	62.1	62.6	58.4	57.6	60.0	60.20	29.221	.243	. .
	16	10 Virginis	6.0	5	III–VII.	126 9 61.4	62.8	61.2	57.1	57.8	59.5	59.97	23.218	.236	. .
	17	Anon. 12h. 11m. 45s.	6.0	5	III–VII.	128 54 62.0	62.9	61.6	58.9	59.0	60.3	60.78	29.971	.978	30.170
	18	Saturn N. L.	. .	5	I–IX.	131 19 60.8	62.1	60.9	57.8	56.9	58.8	59.55	30.082	.096	30.186
	19	Saturn S. L.	. .	4	II–VIII.	" " "	"	"	"	"	"	"	29.536	.546	. .
	20	α² Libræ	. .	5	I–IX.	144 19 61.3	64.0	62.7	61.8	57.7	59.6	61.18	28.186	.210	30.191
	21	Lacaille 6198	5.8	5	III–VII.	160 54 60.4	62.0	65.0	60.6	54.5	57.9	60.07	25.659	.666	. .
	22	O. Arg. S. 14421	9.0	5	III–VII.	158 49 60.5	63.8	64.0	62.5	56.4	58.0	60.87	30.402	.422	. .
	23	O. Arg. S. 14487	8.8	1	V.	" " "	"	"	"	"	"	"	40.342	.360	. .
	24	Jupiter S. L.	. .	1	III.	116 24 60.6	62.8	62.9	60.0	57.1	59.1	60.42	25.110	.116	30.192
	25	Jupiter N. L.	. .	1	V.	" " "	"	"	"	"	"	"	26.495	.507	. .
	26	B. A. C. 5220	7.0	3	IV–VI.	152 14 59.8	63.0	64.1	61.2	57.9	59.2	60.87	27.048	.060	. .
	27	Thetis	9.5	1	V.	138 49 59.3	63.0	62.4	60.9	57.8	57.3	60.12	30.378	.395	30.194
	28	Polaris	. .	5	1–5.	40 19 60.6	65.9	64.2	64.0	59.5	62.8	62.83	30.552	.556	30.308
	29	Venus, centre	. .	5	III–VII.	120 24 59.6	63.1	59.8	58.9	57.1	59.8	59.72	30.126	.140	30.306
5	30	Sun N. L.	. .	4	I–IV.	112 9 60.0	62.1	58.6	58.1	57.0	60.1	59.32	30.940	.936	30.284
	31	Sun S. L.	. .	4	VI–IX.	112 39 59.0	62.0	58.0	56.7	57.0	59.1	58.63	27.576	.579	. .
	32	Mercury, centre	. .	4	III–VI.	105 19 60.0	63.5	59.5	59.0	59.8	61.9	60.62	26.446	.454	30.256
	33	Nadir 12h. 32m.	. .	5	. .	269 59 60.2	58.0	57.1	54.1	55.0	59.8	57.38d	29.852	.855	. .
	34	Anon. 12h. 38m. 19s.	.	1	V.	165 54 60.5	60.6	58.6	57.0	55.8	59.2	58.62	30.168	.185	30.212
	35	Weisse XII, 757	8.0	5	III–VII.	127 59 60.4	58.8	56.2	53.9	55.2	58.0	57.08	23.054	.065	. .
	36	Weisse XII, 876	9.0	1	V.	" " "	"	"	"	"	"	"	25.822	.823	. .
	37	Saturn S. L.	. .	5	I–IX.	131 19 60.7	59.3	57.1	54.9	55.0	57.9	57.48	31.812	.814	. .
	38	Saturn N. L.	. .	4	II–VIII.	" " "	"	"	"	"	"	"	32.301	.321	. .
	39	Polaris, S. P.	. .	5	V.	37 29 61.0	61.8	61.6	59.8	58.8	61.8	60.72	30.058	.070	. .
	40	O. Arg. S. 12811	7.5	5	III–VII.	150 34 61.2	60.2	60.8	56.9	56.4	58.8	59.05	35.006	.025	. .
	41	Lacaille 5510	7.5	2	VIII, IX.	153 59 62.4	62.0	61.2	58.0	56.2	60.3	60.02	30.517	.566	. .
	42	Anon. 13h. 21m. 42s.	7.0	5	III–VII.	163 44 62.1	61.9	61.7	57.1	57.1	60.3	60.03	34.714	.721	30.202
	43	Lacaille 5625	6.0	5	III–VII.	168 9 61.5	60.6	60.2	58.2	56.0	58.4	59.15	28.099	.119	. .
	44	Lacaille 5676	7.0	5	III–VII.	164 24 61.8	61.9	60.6	58.1	57.5	60.0	59.98	30.490	.507	. .
	45	Lacaille 5710	7.5	5	III–VII.	152 34 62.2	62.0	61.9	58.0	57.0	60.9	60.33	31.280	.302	. .
	46	η Bootis	. .	3	IV–VI.	109 49 62.1	62.6	60.0	57.1	58.0	61.2	60.17	32.617	.621	30.206
	47	Jupiter S. L.	. .	5	I–IX.	146 24 62.8	63.1	60.8	59.0	57.9	61.9	60.92	28.506	.525	30.202
	48	Jupiter N. L.	. .	4	II–VIII.	" " "	"	"	"	"	"	"	29.868	.876	. .
	49	Thetis	10.0	1	V.	138 44 61.3	62.3	59.9	59.0	57.3	58.6	59.73	26.798	.799	30.200
	50	Venus	. .	5	I–IX.	119 59 61.5	61.9	58.2	56.5	58.2	60.0	59.38	34.388	.401	30.145
6	51	Mercury	. .	1	VIII.	105 19 57.2	57.9	54.1	52.2	57.9	62.0	56.88	24.412	.436	30.096
	52	Nadir	. .	3	. .	269 59 61.1	54.6	56.5	49.5	57.0	61.0	56.62	29.834	.846	. .
	53	β Orionis	. .	1	VII.	137 14 60.2	60.6	58.0	51.4	57.5	60.5	58.03	30.845	.862	30.077
	54	α Orionis	. .	1	V.	121 29 60.4	61.0	57.2	54.4	59.1	59.2	58.55	28.955	.961	30.050
	55	B. A. C. 7851, S. P.	. .	2	5, 1.	34 19 60.0	59.0	60.3	54.9	57.9	60.1	58.70	29.420	.437	. .
	56	Nadir 10h. 50m.	. .	3	. .	269 59 59.7	56.4	55.0	51.5	55.6	59.8	56.33	29.858	.870	. .
	57	Nadir 12h. 43m.	. .	3	. .	269 59 59.4	57.1	57.3	52.5	56.0	60.5	57.13	29.855	.866	. .
	58	Saturn, centre	. .	3	II, V, IX.	131 19 61.4	59.2	57.6	52.0	55.2	59.1	57.42	34.240	.262	. .
	59	Venus, centre	. .	5	III–VII.	119 29 59.7	62.0	57.7	55.2	55.8	60.3	58.45	28.751	.751	29.982
7	60	Sun S. L.	. .	4	I–IV.	112 9 60.8	63.2	59.0	58.1	59.0	63.1	60.53	33.877	.858	29.974
	61	Sun N. L.	. .	4	VI–IX.	111 34 61.7	64.0	60.0	58.9	60.4	64.0	61.50	27.601	.603	. .
	62	Nadir 12h. 20m.	. .	3	. .	269 59 61.7	56.1	58.0	52.5	56.1	63.2	57.93	29.914	.918	. .
	63	f Virginis	. .	5	III–VII.	133 59 62.0	60.5	58.8	54.0	57.8	63.9	59.50	33.890	.895	29.904
	64	Lalande 23832	8	1	V.	114 29 61.9	61.3	61.0	55.8	57.9	64.9	60.47	26.488	.500	. .
	65	Saturn, centre	. .	5	III–VII.	131 19 62.4	59.8	58.5	53.5	56.8	62.0	58.83	36.549	.558	. .
	66	Polaris, S. P.	. .	5	V.	37 29 60.9	59.9	62.0	56.8	59.0	63.1	60.28	30.120	.137	29.900

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.942	− 1 45.9	+ 20.9	112 58 35.9	+ 16 10 56.2		N.	
2	59.3	61.5	. .	+ 1 29.4	20.4	112 26 50.2				
3	60.4	64.5	. .	− 2 2.3	+ 12.7	105 23 12.3	23 30 26.9			Faint.
4	. .	. .	. .	− 24.8	− 44.2	52 28 51.5	76 24 47.7	+ 69.5		
5	61.3	57.7	. .	+ 14.2	− 1 24.1	34 18 51.0	+ 85 25 11.7	− 67.3		At 10h. 25m. 5s.. 25m. 37s., 26m. 9s., 26m. 32s., and 27m. 2s
6	. .	. .	. .	2 18.3	+ 1 58.7	154 14 15.2	− 25 20 36.0	+ 100.8		
7	. .	. .	. .	1 20.2	− 3 40.3	14 22 39.9	+ 65 29 0.6	− 70.1		
8	61.0	56.6	. .	1 1.8	− 1 34.5	31 19 27.9	+ 82 25 48.6	− 70.7		
9										
10	. .	. .	. .	+ 52.4	+ 2 15.9	157 3 8.1	− 28 9 28.9	+ 104.2		
11	. .	. .	. .	− 4 58.1	1 58.0	153 57 0.2	25 3 21.0	103.7		
12	. .	. .	. .	+ 1 3.4	1 58.6	154 3 2.3	25 9 23.1	103.8		
13	60.0	53.2	. .	− 3 26.7	3 37.7	165 20 11.2	− 36 26 32.0	105.6		
14	. .	. .	. .	− 52.7	48.0	129 34 54.6	+ 0 41 15.4	97.6		
15	. .	. .	. .	+ 21.9	2 1.9	154 37 24.0	− 25 43 44.8	103.5		
16	. .	. .	. .	+ 3 30.1	42.6	126 14 12.6	+ 2 39 26.6	96.8		
17	59.0	52.8	. .	− 1.1	47.0	128 55 46.6	− 0 2 7.4	97.2		
18	58.0	51.5	. .	− 4.9	50.7	131 20 45.3	2 27 14.7			
19	. .	. .	. .	+ 12.4	50.7	131 21 2.6				
20	53.6	48.0	. .	54.3	1 21.9	144 22 17.3	15 28 38.1	71.7		
21	. .	. .	. .	+ 2 14.0	2 48.9	161 0 2.9	32 6 23.7	67.8		
22	. .	. .	. .	− 15.0	2 30.9	158 52 16.7	29 58 37.5	62.6		
23	. .	. .	. .	− 5 26.4	2 30.2	158 47 4.6	29 53 25.4	61.0		
24	52.5	47.7	. .	+ 2 31.2	1 27.0	146 28 58.6	17 34 57.6			
25	. .	. .	. .	1 47.6	1 27.0	146 28 15.0				
26	. .	. .	. .	+ 1 30.3	1 51.8	152 18 22.9	23 24 43.7	+ 51.8		
27	52.7	46.8	. .	− 14.2	+ 1 7.3	138 50 53.2	− 9 57 14.0			
28	59.5	68.1	. .	19.2	− 1 6.8	40 18 36.8	+ 88 35 2.4	− 75.8	Ha.	
29	60.0	69.0	. .	6.2	+ 30.5	120 25 24.0	8 28 15.2			
30	61.5	71.8	. .	− 31.1	19.8	112 9 48.0	16 27 58.7			
31	. .	. .	. .	+ 1 14.0	20.3	112 41 32.9				
32	63.5	73.8	. .	+ 1 49.3	12.4	105 22 2.3	+ 23 31 36.9			
33										
34	63.0	58.2	. .	− 7.6	3 45.8	165 58 36.8	− 37 4 57.6	+ 101.5		
35	. .	. .	. .	+ 3 35.5	45.2	128 4 17.7	+ 0 49 21.5	94.4		
36	. .	. .	. .	+ 2 9.1	45.1	128 2 51.2	+ 0 50 48.0	+ 94.2		
37	. .	. .	. .	− 58.7	50.0	131 19 48.7	− 2 26 1.6			
38	. .	. .	. .	1 14.5	+ 50.0	131 19 32.9				
39	. .	. .	. .	4.0	− 1 15.1	37 28 41.6	+ 88 35 2.3	− 75.7		All readings at wire V.
40	. .	. .	. .	2 39.3	+ 1 41.8	150 34 1.5	− 21 40 22.3	+ 94.1		
41	. .	. .	. .	19.6	1 57.7	154 1 38.1	25 7 58.9	94.2		
42	63.0	58.0	. .	− 2 29.7	3 14.8	163 45 45.1	34 52 5.9	93.8		
43	. .	. .	. .	+ 57.4	4 29.1	168 15 25.3	39 21 46.1	91.8		
44	. .	. .	. .	− 17.7	3 24.2	164 28 6.4	35 34 27.2	90.0		
45	. .	. .	. .	42.6	1 51.0	152 36 8.7	− 23 42 29.5	88.1		
46	62.5	56.5	. .	− 1 23.9	20.9	109 48 57.1	+ 19 4 42.1	+ 82.0		
47	61.0	55.2	. .	+ 44.4	1 25.6	146 27 10.9	− 17 33 10.5			
48	. .	. .	. .	2.1	1 25.6	146 26 28.6				
49	61.0	54.2	. .	+ 1 38.5	1 6.3	138 47 44.5	− 9 54 5.3			
50	63.5	73.4	29.967	− 2 18.9	29.5	119 58 9.9	+ 8 55 29.3		N.	
51	70.0	82.9	. .	+ 2 53.3	11.9	105 23 2.0	+ 23 30 37.2			Very faint.
52									D.	
53	72.5	81.0	. .	− 28.0	59.4	137 15 29.4	− 8 21 50.2	− 7.8		Bar. and therm. from Meteorological Journal.
54	73.2	82.8	. .	+ 31.5	+ 33.5	121 31 3.5	+ 7 22 35.7	+ 5.2		Bar. and therm. from Meteorological Journal.
55	. .	. .	. .	+ 16.6	− 1 21.8	34 18 53.5	+ 85 25 14.3	− 67.2		
56	68.8	68.4								Barometer and thermometer at 11h. 0m.
57	68.7	66.3								Barometer and thermometer at 12h. 4m.
58	. .	. .	. .	− 2 14.6	+ 49.0	131 18 31.8	− 2 24 52.6			
59	68.5	82.3	29.985	+ 38.7	28.3	119 31 5.4	+ 9 22 33.8		Ha.	
60	71.5	85.0	. .	− 2 1.4	19.0	112 8 18.1	+ 17 1 13.0			
61	. .	. .	. .	+ 1 14.6	18.3	111 36 34.4				
62										
63	72.0	70.2	. .	− 2 2.5	53.7	133 58 50.7	− 5 5 11.5	+ 97.0		
64	. .	. .	. .	+ 1 49.2	25.5	114 32 15.1	+ 14 21 24.1	+ 91.6		
65	. .	. .	. .	− 3 26.0	+ 48.3	131 17 21.1	− 2 23 41.9			
66	72.0	69.6	. .	− 4.8	− 1 12.6	37 28 42.8	+ 88 35 3.5	− 75.2		All the readings at wire V.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
May 7	1	B. A. C. 4536 . .	7.0	1	V.	90 59 60.5	60.1	59.1	54.4	57.7	64.1	59.32	28.092	.106	. .
	2	o Virginis	. .	1	V.	124 39 60.4	59.7	58.5	54.1	56.2	62.9	58.63	30.692	.694	. .
	3	κ Virginis	. .	1	V.	138 29 60.9	60.1	57.1	54.5	56.8	60.6	58.33	27.646	.650	29.900
	4	λ Virginis	. .	1	V.	141 34 60.9	59.0	60.0	54.8	56.1	61.3	58.68	25.435	.450	. .
	5	ρ Bootis	. .	1	V.	97 54 61.1	60.5	60.4	55.3	58.5	64.5	60.05	29.028	.038	. .
	6	108 Virginis, (4869) . .	. .	1	V.	127 34 61.0	59.1	57.4	53.3	56.0	61.2	58.00	28.889	.892	. .
	7	B. A. C. 4937 . .	. .	1	V.	78 39 61.0	61.0	63.1	56.1	59.8	65.9	61.15	24.630	.634	29.896
9	8	Sun N. L. . . .	. .	4	I–IX.	111 4 61.4	62.0	58.8	56.3	56.5	63.0	59.67	31.541	.537	29.832
	9	Nadir 10h. 46m. .	. .	3	. .	269 59 61.6	56.5	58.3	53.2	55.7	62.6	57.98	29.842	.845	. .
16	10	B. A. C. 8314, S. P.	6.0:	4	IV–I.	22 34 60.5	62.0	64.6	61.4	58.3	61.5	61.38	29.851	.920	29.929
	11	Moon N. L. . . .	. .	5	I–IX.	133 49 60.3	60.8	61.1	57.5	56.8	61.2	59.62	28.667	.678	. .
	12	Anon. 12h. 17m. 0s.	8.0	5	III–VII.	154 4 59.9	59.7	61.7	56.7	54.7	58.5	58.53	24.668	.674	. .
	13	Lacaille 5143 . .	7.0	1	V.	" " "	"	"	"	"	"	"	27.561	.569	. .
	14	Saturn S. L. . .	. .	3	I–IX.	131 9 60.9	60.5	60.0	56.6	54.9	59.6	58.75	34.076	.090	29.937
	15	Saturn N. L. . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	34.620	.626	. .
	16	O. Arg. S. 12615 .	8.3	1	V.	153 54 61.9	61.1	62.8	58.5	55.5	59.6	59.90	27.285	.304	. .
	17	Lacaille 5457 . .	6.5	5	III–VII.	164 29 61.9	61.2	63.2	60.0	57.0	61.2	60.75	30.535	.550	. .
	18	Anon. 13h. 16m. 50s.	7.3	5	III–VII.	153 14 61.5	60.1	63.0	59.0	56.1	60.5	60.03	25.572	.582	29.935
	19	Anon. 13h. 23m. 40s.	7.8	5	III–VII.	153 49 61.5	60.4	62.5	58.5	55.6	59.1	59.60	31.277	.302	. .
	20	Nadir 13h. 36m. .	. .	6	. .	269 59 61.0	60.0	61.5	58.7	57.5	61.0	59.95d	29.865	.874	. .
	21	50 Cassiopeæ, S. P. .	3.8	5	VII–III.	20 39 60.5	62.1	64.6	62.4	58.5	60.6	61.45	26.583	.613	29.932
	22	Lacaille 5838 . .	7.5	1	V.	158 19 61.5	62.2	63.6	60.6	55.4	59.3	60.43	33.455	.469	. .
	23	4 Ursæ Minoris . .	4.8	3	1–5.	50 44 61.1	63.2	66.0	62.8	60.4	65.5	63.17	33.378	.395	. .
	24	O. Arg. S. 13711 .	6.8	1	V.	158 59 61.7	62.2	63.9	61.4	56.3	59.6	60.85	33.508	.519	. .
	25	Lacaille 6042 . .	7.7	5	III–VII.	154 34 61.5	61.3	62.4	58.5	56.0	59.8	59.92	35.681	.688	29.924
	26	Lacaille 6109 . .	8.0	2	VIII, IX.	160 44 62.1	61.9	65.1	59.6	56.2	59.8	60.78	34.383	.446	. .
	27	Lacaille 6162 . .	6.2	1	V.	157 29 62.4	62.1	63.6	61.5	57.2	60.5	61.22	33.969	.976	. .
	28	O. Arg. S. 14257 .	8.5	5	III–VII.	157 49 61.2	61.6	62.9	60.5	56.1	59.2	60.25	29.809	.814	. .
	29	O. Arg. S. 14278 .	7.0	2	VII, IX.	" " "	"	"	"	"	"	"	45.284	.338	. .
	30	2 Lupi	5.0	3	VII–IX.	158 29 61.7	61.8	63.8	61.9	56.4	59.0	60.77	29.529	.575	. .
	31	Jupiter S. L. . .	.	4	II–VIII.	146 4 61.6	61.9	62.0	59.2	56.4	60.8	60.32	28.566	.579	29.919
	32	Jupiter N. L. . .	. .	3	III–VII.	" " "	"	"	"	"	"	"	29.959	.969	. .
	33	Anon. 15h. 31m. 18s.	9.0	1	V.	167 9 61.9	63.1	65.8	63.9	57.6	60.6	62.15	38.528	.538	. .
	34	Thetis	9.7	3	II, V, IX.	138 14 60.5	61.4	60.8	58.5	56.0	58.8	59.33	25.009	.022	. .
17	35	γ Cephei, S. P. . .	. .	1	1.	25 49 59.7	64.7	65.0	61.6	58.1	61.5	61.77	33.990	.998	29.819
	36	β Cassiopeæ, S. P. .	. .	1	V.	7 24 55.4	58.2	58.8	57.5	53.8	54.8	56.42	31.023	.033	. .
	37	Nadir 12h. 35m. .	. .	4	. .	269 59 54.6	58.0	55.3	52.5	52.9	55.9	54.87	29.669	.677	. .
	38	Moon N. L. . . .	. .	5	I–IX.	138 4 60.0	62.7	60.9	58.0	56.6	60.3	59.75	29.331	.346	. .
	39	A Cassiopeæ, S. P. .	. .	1	V.	18 29 60.9	62.5	65.3	64.0	59.4	60.7	62.13	29.669	.672	29.816
	40	Nadir	. .	3	. .	269 59 60.7	64.0	62.1	60.2	58.3	62.5	61.35	29.889	.895	. .
	41	5 Ursæ Minoris . .	. .	1	V.	52 34 60.7	65.1	66.0	64.6	60.2	65.9	63.75	27.367	.385	. .
	42	β Ursæ Minoris . .	. .	1	V.	54 9 59.8	63.7	64.3	62.4	59.1	63.0	62.05	26.675	.678	. .
	43	Jupiter S. L. . .	. .	3	I–IX.	146 4 60.1	63.0	61.8	59.9	57.0	60.4	60.37	32.041	.062	29.792
	44	Jupiter N. L. . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	33.408	.428	. .
18	45	Sun S. L. . . .	. .	2	VIII, IX.	109 24 60.5	62.3	58.9	56.6	57.0	60.1	59.23	27.466	.451	29.784
	46	Moon N. L. . . .	. .	4	I–IX.	141 59 60.8	60.1	61.0	56.3	55.9	60.0	59.02	26.830	.882	29.829
	47	Nadir 14h. . . .	. .	6	. .	269 59 60.5	58.0	59.5	56.5	55.9	61.5	58.65	29.851	.855	. .
19	48	Sun S. L. . . .	. .	3	II–IV.	109 14 60.4	63.3	60.4	57.6	57.2	61.4	60.05	32.773	.764	29.906
	49	γ Cephei, S. P. . .	. .	5	VII–III.	25 49 59.7	63.3	63.1	60.1	57.8	61.2	60.87	33.899	.935	29.916
	50	Nadir 12h. 10m. .	. .	3	. .	269 59 59.4	60.9	59.4	56.5	57.7	61.3	59.20	29.812	.814	. .
	51	Saturn S. L. . .	. .	3	I–IX.	131 4 57.9	61.0	57.6	55.0	54.5	57.7	57.28	28.972	.980	29.950
	52	Saturn N. L. . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	29.502	.513	. .
	53	e Cassiopeæ, S. P. .	. .	5	VII–III.	11 59 60.1	62.9	64.4	62.3	58.5	60.8	61.50	34.137	.167	. .
	54	d Bootis	. .	1	V.	103 9 61.4	65.0	64.4	61.6	59.4	64.2	62.67	31.303	.322	29.960
	55	Moon N. L. . . .	. .	5	I–IX.	145 24 61.0	63.5	61.2	57.8	56.8	61.9	60.37	29.970	.986	. .
	56	Nadir 14h. 50m. .	. .	3	. .	269 59 60.3	63.0	60.6	59.3	57.6	62.6	60.57	29.899	.903	. .
	57	Jupiter N. L. . .	. .	3	I–IX.	145 59 59.5	62.5	60.6	57.9	55.7	60.0	59.37	30.852	.864	29.950
	58	Jupiter S. L. . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	29.502	.517	. .
20	59	Sun N. L. . . .	. .	4	VI–IX.	108 29 60.4	62.4	60.8	58.5	57.2	62.4	60.28	31.049	.057	29.982
	60	γ Cephei, S. P. . .	. .	5	VII–III.	25 49 60.1	60.9	64.2	58.8	57.7	60.2	60.32	33.911	.947	29.898
	61	B. A. C. 8314, S. P.	. .	3	VI–IV.	22 34 60.5	61.1	63.4	58.7	58.3	61.1	60.52	29.856	.868	. .
	62	Lacaille 5257 . .	. .	3	III–VII.	154 24 61.0	58.9	60.9	55.1	55.6	59.8	58.55	29.090	.108	29.904
	63	Saturn S. L. . . .	. .	5	I–IX.	131 4 61.9	60.1	59.8	55.9	55.5	60.5	58.95	30.351	.370	. .
	64	Saturn N. L. . .	. .	4	II–VIII.	" " "	"	"	"	"	"	"	30.882	.886	. .
	65	Lacaille 5348 . .	. .	1	VIII.	158 9 62.1	60.4	63.4	57.9	55.5	59.7	59.83	34.700	.737	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.985	+ 58.9	+ 1.0	91 0 59.2	+ 37 52 40.0	+ 81.5	Ha.	
2	. .	. .	. .	− 22.2	38.6	124 40 15.0	+ 4 13 24.2	86.3		
3	71.5	67.7	. .	+ 1 13.2	1 3.3	138 32 14.8	− 9 38 35.6	81.7		
4	. .	. .	. .	2 22.1	1 10.6	141 38 31.3	− 12 44 52.1	80.4		
5	. .	. .	. .	29.7	7.8	97 55 37.5	+ 30 58 1.7	72.5		
6	. .	. .	. .	34.2	+ 43.2	127 36 15.4	1 17 23.8	72.2		
7	71.5	66.7	. .	+ 2 47.7	− 11.2	78 42 37.6	50 11 1.6	+ 64.7		Night bad, very thick and hazy, and stars quite unsteady.
8	74.0	81.0	29.845	− 51.0	+ 16 10.2	111 20 18.8	17 33 20.4			Wires I, II, VIII, IX. Clouds, III-VII.
9										
10	68.5	65.7	29.874	− 1.4	− 2 14.5	22 32 45.4	+ 73 39 6.1	− 74.6	N.	
11	. .	. .	. .	+ 37.5	− 22 1.8	133 28 35.3	− 4 34 56.1			
12	. .	. .	. .	2 42.9	+ 1 55.7	154 9 37.1	25 15 57.9	+ 102.8		
13	. .	65.0	. .	+ 1 12.2	1 55.6	154 8 6.3	25 14 27.1	102.7		
14	68.0	64.3	. .	− 2 12.1	48.6	131 8 35.2	2 14 47.6			
15	. .	. .	. .	− 2 28.9	48.6	131 8 18.4				
16	. .	. .	. .	+ 1 20.5	1 55.0	153 58 15.4	25 4 36.2	98.2		
17	. .	. .	. .	− 21.2	3 20.7	164 33 0.2	35 39 21.0	98.0		
18	67.5	63.4	. .	+ 2 14.5	1 51.9	153 19 6.4	24 25 27.2	94.6		
19	. .	. .	. .	− 44.7	+ 1 54.6	153 51 9.5	− 24 57 30.3	+ 93.4		
20										
21	67.0	62.2	. .	+ 1 42.2	− 2 28.9	20 39 14.7	+ 71 45 35.5	− 67.7		
22	. .	. .	. .	− 1 52.7	+ 2 21.5	158 20 29.2	− 29 26 50.0	+ 84.9		
23	. .	. .	. .	1 50.3	− 1 46.4	50 42 26.4	+ 78 11 12.8	67.0		
24	. .	. .	. .	1 54.2	+ 2 26.5	159 0 33.1	− 30 6 53.9	78.6		
25	66.3	61.5	. .	3 2.2	1 58.6	154 33 56.3	25 40 17.1	76.0		
26	. .	. .	. .	2 23.3	2 40.7	160 45 18.1	31 51 38.9	73.5		
27	. .	. .	. .	− 2 5.4	2 15.9	157 30 11.7	28 36 32.5	70.9		
28	. .	. .	. .	+ 1.9	2 18.5	157 52 20.6	28 58 41.4	67.5		
29	. .	. .	. .	− 8 4.6	2 17.6	157 44 13.2	28 50 34.0	67.0		
30	. .	60.8	. .	+ 9.4	2 23.2	158 32 33.3	29 38 54.1	63.8		
31	65.3	60.7	. .	+ 40.6	1 22.8	146 7 3.7	17 13 2.7			
32	. .	. .	. .	− 3.0	1 22.8	146 6 20.1				
33	. .	. .	. .	− 4 31.5	4 2.8	167 9 33.4	38 15 54.2	+ 55.7		
34	. .	. .	. .	+ 2 32.0	+ 1 3.7	138 18 35.0	− 9 24 55.8			
35	68.7	65.8	29.846	− 2 10.1	− 1 55.5	25 45 56.1	+ 76 52 16.9	− 73.9	D.	
36	. .	. .	. .	− 37.2	6 46.1	7 17 33.1	+ 58 23 53.9	75.6		
37										
38	. .	. .	. .	+ 15.7	24 59.9	137 40 15.5	− 8 46 36.3			
39	67.0	61.8	. .	5.5	2 47.2	18 27 20.4	+ 69 33 41.2	− 71.2		
40										
41	. .	. .	. .	1 17.1	43.3	52 35 37.5	76 18 1.7	+ 63.5		
42	. .	. .	. .	+ 1 39.3	− 40.9	54 11 0.4	+ 74 42 38.8	+ 59.2		
43	65.0	59.8	. .	− 1 9.4	+ 1 22.5	146 5 13.4	− 17 11 12.8			
44	. .	. .	. .	− 1 52.2	+ 1 22.5	146 4 30.6				
45	69.5	76.7	29.898	+ 1 16.7	− 15 33.8	109 10 42.1	+ 19 42 57.1		N.	Hazy.
46	69.0	62.2	. .	+ 1 34.5	27 38.8	141 33 54.7	− 12 40 15.5			Alternate; missed wire III.
47										
48	69.0	73.7	29.862	− 1 30.9	15 33.7	108 57 55.4	+ 19 55 43.8			
49	70.0	66.5	. .	− 2 7.6	− 1 55.7	25 45 57.5	+ 76 52 18.3	− 73.7	D.	
50										
51	69.0	65.5	. .	+ 27.6	+ 48.5	131 6 13.3	− 2 12 25.8			
52	. .	. .	. .	+ 10.9	+ 48.5	131 5 56.6				
53	. .	. .	. .	− 2 14.9	− 4 20.1	11 53 26.5	+ 62 59 47.3	− 68.2		
54	68.0	63.0	. .	45.8	+ 13.2	103 9 30.0	+ 25 44 9.2	+ 75.4		
55	. .	. .	. .	3.9	− 29 50.6	144 55 5.8	− 16 1 26.6			
56										
57	66.0	60.7	. .	− 31.4	+ 1 22.3	146 0 50.2	− 17 7 32.1			
58	. .	. .	. .	+ 10.8	1 22.3	146 1 32.4				
59	68.3	76.6	29.896	− 36.4	+ 16 5.9	108 45 29.7	+ 20 8 9.5		N.	
60	70.0	68.2	. .	− 2 6.9	− 1 55.2	25 45 58.2	76 52 19.0	− 73.7		
61	. .	. .	. .	+ 0.9	− 2 13.9	22 32 47.5	+ 73 39 8.3	− 74.2		
62	69.0	65.0	. .	+ 24.7	+ 1 57.1	154 27 20.3	− 25 33 41.1	+ 100.7		
63	. .	. .	. .	− 14.8	48.5	131 5 32.6	2 11 45.3			
64	. .	. .	. .	31.0	48.5	131 5 16.4				
65	. .	. .	. .	− 26.3	+ 2 20.5	158 11 54.0	− 29 18 14.8	+ 99.8		Cloudy; extremely faint.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ″ ″	″	″	″	″	″	″	r.	r.	in.
May 20	1	Nadir 13h. 0m.	. .	4	. .	269 59 61.6	59.5	61.2	57.4	58.1	62.3	60.02	29.888	.892	. .
	2	α Virginis	. .	3	II–IV.	139 19 62.9	60.5	61.0	57.1	57.6	60.3	59.90	30.196	.204	. .
	3	α Virginis, (Ref.)	. .	2	VII, IX.	220 39 61.6	58.0	63.9	57.9	57.9	63.0	60.38	29.610	.629	29.904
	4	Lacaille 5773	. .	5	III–VII.	154 9 61.5	60.9	63.4	57.0	56.7	60.1	59.93	26.137	.156	. .
	5	α Draconis	. .	2	IV, V.	63 49 62.1	61.1	64.7	59.9	59.1	64.5	61.90	25.142	.149	. .
	6	α Draconis, (Ref.)	. .	4	VI–IX.	296 4 62.2	59.9	62.1	55.6	58.3	60.5	59.77	24.986	.062	. .
	7	α Bootis, (Ref.)	. .	3	II–IV.	250 59 62.9	61.5	65.4	59.5	61.6	66.0	62.82	29.867	.863	. .
	8	α Bootis	. .	4	VI–IX.	108 59 61.7	62.0	61.0	57.1	57.4	62.0	60.20	30.006	.022	29.904
	9	O. Arg. S. 13629	. .	1	IV.	156 9 61.4	61.2	62.2	57.8	57.1	60.0	59.96	31.445	.453	. .
	10	O. Arg. S. 13647	. .	5	III–VII.	" " "	"	"	"	"	"	"	29.441	.459	. .
	11	5 Ursæ Minoris, (Ref.)	. .	3	VII–IX.	307 24 61.5	61.1	61.9	54.6	56.5	61.0	59.43	32.231	.394	. .
	12	α^2 Libræ	. .	4	I–IV.	144 19 60.6	60.4	60.9	56.6	56.6	59.4	59.08	28.004	.004	. .
	13	β Ursæ Minoris, (Ref.)	. .	3	IV–V.	305 49 60.5	58.8	59.5	54.0	55.0	59.0	57.80	32.930	.937	. .
	14	β Ursæ Minoris	. .	3	VI–VII.	54 9 61.0	60.6	63.9	59.3	58.8	63.0	61.10	26.805	.782	. .
	15	Jupiter S. L.	. .	5	I–IX.	145 49 61.8	62.3	62.5	59.0	58.4	61.7	60.95	32.977	.992	29.992
	16	Jupiter N. L.	. .	4	II–VIII.	" " "	"	"	"	"	"	"	34.317	.341	. .
	17	Moon N. L.	. .	4	I–IV.	147 59 62.0	60.2	62.1	58.2	55.8	60.0	58.05	30.978	.879	. .
	18	B. A. C. 5220	. .	1	VIII.	152 14 61.1	60.8	62.5	58.9	57.5	60.8	60.27	26.770	.803	29.898
	19	Nadir 16h.	. .	6	. .	269 59 61.6	59.2	61.8	58.5	57.5	61.6	60.03	29.897	.902	. .
	20	Venus, centre	. .	5	I–IX.	113 39 61.7	65.0	63.2	60.4	59.0	57.0	61.05	32.798	.792	29.860
21	21	α Bootis	. .	5	I–IX.	108 59 60.0	62.6	57.9	54.7	57.2	62.5	59.15	29.770	.762	29.773
	22	Nadir 15h.	. .	7	. .	269 59 60.0	59.3	58.6	55.0	58.0	61.8	58.78	29.839	.846	. .
	23	Jupiter S. L.	. .	3	I–IX.	145 59 61.0	60.9	60.9	55.7	59.0	62.0	59.92	36.229	.257	29.757
	24	Jupiter N. L.	. .	2	III, VII.	" " "	"	"	"	"	"	"	37.527	.541	. .
23	25	Sun S. L.	. .	1	V.	108 24 60.4	61.6	60.6	57.2	55.5	61.6	59.48	28.364	.382	30.061
	26	4 Draconis	. .	3	IV–V.	50 29 60.2	58.9	62.4	57.6	58.1	64.2	60.23	25.955	.948	. .
	27	4 Draconis, (Ref.)	. .	3	VI–IX.	309 29 60.8	57.9	59.9	51.3	55.0	59.4	57.38	33.544	.679	29.928
	28	Nadir 12h. 30m.	. .	2	. .	269 59 61.4	59.0	59.8	55.7	57.3	62.2	59.23	29.783	.794	. .
	29	Nadir	. .	3	. .	270 4 62.0	61.0	61.4	57.4	59.4	64.5	60.96	39.498	.508	. .
	30	α Virginis	. .	5	I–IX.	139 19 62.0	59.5	60.0	55.1	56.7	59.0	58.72	30.131	.150	29.944
	31	Venus, centre	. .	2	V, IX.	112 29 61.3	64.1	61.1	58.2	59.3	64.3	61.38	27.194	.204	29.976
24	32	Sun S. L.	. .	2	I, III.	108 14 61.9	63.3	61.0	55.9	58.9	63.0	60.67	30.365	.363	. .
	33	Sun N. L.	. .	2	VII, IX.	107 44 60.1	61.5	60.0	54.3	58.0	62.0	59.32	33.332	.345	29.880
27	34	Sun N. L.	. .	4	I–IV.	107 9 60.0	59.6	60.8	54.4	55.7	58.9	58.23	25.460	.466	
	35	Sun S. L.	. .	4	VI–IX.	107 44 62.0	61.4	61.2	56.0	56.9	61.2	59.78	32.238	.239	29.714
	36	Nadir	. .	3	. .	269 59 62.5	58.5	59.9	57.0	57.1	62.3	59.55	29.866	.876	. .
	37	Anon. 14h. 14m. 46s.	. .	1	V.	164 9 61.8	57.5	61.1	55.9	54.2	58.7	58.20	26.005	.017	29.896
	38	B. A. C. 4842	. .	5	III–VII.	165 59 61.6	59.0	61.5	58.1	55.5	60.2	59.32	24.929	.943	. .
	39	B. A. C. 4888	. .	1	VIII.	152 29 61.1	57.0	60.5	56.1	53.9	58.4	57.83	24.156	.186	. .
	40	B. A. C. 4982	5.0	5	1–5.	45 49 61.5	60.0	65.0	60.5	57.8	61.7	61.08	29.207	.223	29.822
	41	2 Lupi	3.8	1	V.	158 29 62.2	59.1	63.3	58.8	54.3	58.9	59.43	29.265	.282	. .
	42	Jupiter S. L.	. .	3	I–IX.	145 44 62.4	60.2	61.7	56.5	56.0	61.1	59.65	27.881	.897	. .
	43	Jupiter N. L.	. .	2	III, VII.	" " "	"	"	"	"	"	"	29.265	.286	. .
	44	Nadir 15h. 40m.	. .	3	. .	269 59 61.6	58.0	60.6	57.1	56.1	60.8	59.03	29.999	.010	. .
	45	Venus, centre	. .	3	IV–VI.	111 9 59.9	63.0	60.0	58.4	57.6	61.0	59.98	34.687	.689	29.945
28	46	Sun S. L.	. .	2	I, IV.	107 34 61.8	65.1	63.3	58.9	58.7	63.2	61.83	31.575	.574	. .
	47	Sun N. L.	. .	1	IX.	107 4 63.5	65.8	63.5	60.0	61.5	63.5	62.97	34.793	.766	29.946
	48	Nadir	. .	6	. .	269 54 60.4	57.0	59.5	55.0	56.1	60.0	58.00	20.426	.436	. .
	49	Nadir	. .	6	. .	269 54 60.2	57.8	59.0	55.1	56.0	60.0	58.02	20.427	.438	. .
	50	Nadir	. .	6	. .	269 59 61.6	59.0	60.4	57.3	57.8	61.5	59.60	30.048	.060	. .
	51	Nadir	. .	6	. .	269 59 61.4	60.1	59.5	57.1	57.1	61.1	59.38	30.050	.062	. .
	52	Nadir	. .	6	. .	270 4 60.8	59.9	60.6	57.7	58.2	62.2	59.90	39.636	.642	. .
	53	Nadir	. .	6	. .	270 4 61.0	60.0	60.2	58.1	58.3	62.0	59.93	39.635	.642	. .
	54	Nadir	. .	3	. .	269 54 60.2	58.6	59.2	56.0	56.8	60.5	58.55	20.444	.455	. .
29	55	Venus	. .	5	III–VII.	110 29 60.9	64.9	61.4	59.3	60.1	60.8	61.23	33.267	.981	30.023
30	56	Sun N. L.	. .	4	I–IV.	106 44 60.2	66.6	63.0	60.9	60.7	62.3	62.28	31.019	.028	30.020
	57	Sun S. L.	. .	4	VI–IX.	107 14 58.8	64.5	61.0	58.5	59.6	59.9	60.38	27.893	.883	. .
	58	Nadir 4h. 40m.	. .	4	. .	269 59 58.4	59.8	57.9	57.4	57.0	60.0	58.42	30.012	.022	. .
	59	O. Arg. S. 12390	. .	1	V.	157 54 62.2	63.4	62.0	60.0	58.9	61.7	61.37	32.005	.017	29.990
	60	Anon. 12h. 50m. 7s.	8.0:	1	V.	161 14 61.2	62.1	62.9	59.5	56.7	60.9	60.55	27.296	.312	. .
	61	Lacaille 5405	. .	3	IV–VI.	158 34 61.5	64.3	63.3	61.4	58.0	61.3	61.63	31.927	.937	. .
	62	Polaris, S. P., (Ref.)	. .	3	5.	322 29 60.5	61.4	62.3	56.5	58.0	59.5	59.70	29.640	.635	30.000
	63	α Virginis	. .	5	I–IX.	139 19 60.8	62.7	59.0	58.6	58.0	59.4	59.75	30.302	.322	. .
	64	ζ Virginis	. .	2	III, IV.	128 44 59.5	61.9	57.6	58.2	57.4	60.8	59.23	26.043	.057	. .
	65	ζ Virginis, (Ref.)	. .	4	VI–IX.	231 9 58.6	58.0	60.4	58.0	56.7	62.9	59.10	24.445	.456	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1									N.	
2	. .	. .	29.896	— 9.8	+ 1 5.7	139 20 55.8	— 10 27 16.6	+ 91.7		
3	68.3	63.1	. .	+ 8.4	— 1 5.7	220 39 3.0	10 27 17.7			
4	. .	. .	. .	1 57.2	+ 1 56.6	154 13 53.7	— 25 20 14.5	87.7		
5	. .	. .	. .	2 28.7	— 27.8	63 52 2.8	+ 65 1 36.4	68.9		
6	. .	. .	. .	2 31.4	+ 27.8	296 7 58.9	65 1 38.2			
7	. .	. .	. .	+ 1.0	— 19.5	250 59 44.3	19 53 23.6	75.2		
8	67.7	62.1	. .	— 3.9	+ 19.5	109 0 15.8	+ 19 53 23.4			
9	. .	. .	. .	— 48.8	2 7.5	156 11 18.6	— 27 17 39.4	80.1		Faint.
10	. .	. .	. .	+ 13.7	2 7.5	156 12 21.1	— 27 18 41.9	79.7		
11	. .	. .	. .	— 1 18.3	43.3	307 24 24.4	+ 76 18 3.7	62.8		
12	. .	. .	. .	+ 59.3	1 18.9	144 22 17.2	— 15 28 38.0	71.7		
13	. .	. .	. .	— 1 35.3	+ 40.9	305 49 3.4	+ 74 42 42.7	58.2		
14	. .	. .	. .	+ 1 37.6	— 40.9	54 10 57.8	+ 74 42 41.4			
15	66.5	61.6	. .	— 1 37.0	+ 1 22.1	145 59 46.0	— 17 5 45.6			Barometer perhaps 29.892.
16	. .	. .	. .	2 19.3	+ 1 22.1	145 59 3.7				
17	. .	. .	. .	— 30.8	— 31 30.2	147 27 57.0	18 34 17.8			
18	66.3	61.5	. .	+ 1 36.9	+ 1 47.5	152 18 24.6	— 23 24 45.4	52.4		
19										
20	69.5	81.0	29.885	— 1 31.1	21.8	113 38 51.7	+ 15 14 47.5		D.	
21	72.7	71.2	. .	+ 3.8	19.1	109 0 22.0	+ 19 53 17.2	75.0		Perhaps read wrong index, making an error of —0r.250 = —7″.8.
22										Image unsteady.
23	. .	70.1	. .	— 3 19.7	1 20.3	145 58 0.5	— 17 4 1.2			Disk indistinct and tremulous.
24	. .	. .	. .	— 3 59.9	+ 1 20.3	145 57 20.3				
25	70.7	76.5	29.819	+ 45.0	— 15 33.7	108 10 10.7	+ 20 43 28.5		N.	
26	. .	. .	. .	+ 2 1.3	— 45.9	50 31 15.6	78 22 23.6	75.8		
27	72.5	70.6	. .	— 2 0.9	+ 45.9	309 28 42.3	+ 78 22 21.5			Missed wire VIII.
28										On looking at the image it was found to be formed about $\frac{1}{12}$ inch within the wires.
29										
30	72.0	69.3	. .	— 10.4	1 5.0	139 20 53.3	— 10 27 14.1	91.6		
31	78.0	81.6	. .	+ 1 21.9	20.7	112 31 43.9	+ 16 21 55.3		D.	
32	. .	. .	. .	— 17.0	15.3	108 14 58.9	20 54 28.0			May 24. Eyepiece taken out, new vertical wires put in, and micrometer plate-guides tightened.
33	74.5	83.2	. .	— 1 50.5	14.8	107 43 23.6				
34	. .	. .	29.890	+ 2 18.6	14.5	107 12 31.3	+ 21 25 21.5		N.	May 26. Adjusted focus.
35	73.3	75.7	. .	— 1 10.5	15.0	107 44 4.2				No reliable inclination.
36										
37	71.6	65.1	30.041	+ 2 6.1	3 15.6	164 15 19.9	— 35 21 40.7	83.2		Before this observation adjusted eyepiece for horizontality of wires.
38	. .	. .	. .	2 39.7	3 41.8	166 6 20.8	37 12 41.6	77.7		
39	. .	. .	. .	3 3.4	+ 1 47.6	152 34 48.8	— 23 41 9.6	73.6		
40	70.7	65.0	. .	25.6	— 54.5	45 49 32.1	+ 83 4 7.1	53.8		
41	. .	. .	. .	23.8	+ 2 21.6	158 32 44.8	— 29 39 5.6	64.7		Micrometer reading seems wrong by about 0r.300.
42	. .	. .	. .	1 7.2	1 20.7	145 47 27.5	— 16 53 26.5			
43	. .	. .	. .	+ 23.7	1 20.7	145 46 44.0				
44										
45	77.5	75.5	30.073	— 2 24.6	19.5	111 7 54.8	+ 17 45 44.4		D.	
46	. .	. .	. .	47.0	14.9	107 34 29.7	21 34 59.2			
47	79.0	77.5	. .	2 27.0	14.4	107 2 50.3				
48									N.	Observations for value of one revolution of micrometer.
49									Ha.	
50									N.	Resulting value, 31″.342.
51									Ha.	
52									N.	
53									Ha.	
54									N.	May 29. Examined level and found west end too low. Adjusted. Found wires 1¼′ too far west. Adjusted collimation.
55	70.4	77.8	. .	1 40.5	18.8	110 28 39.5	18 24 59.7			
56	72.0	79.7	. .	— 30.0	14.1	106 44 46.3	+ 21 53 4.3			
57	. .	. .	. .	+ 1 8.6	14.6	107 16 23.5				
58										
59	73.0	70.8	. .	— 1 0.9	2 16.6	157 56 17.0	— 29 2 37.8	102.0		Faint.
60	. .	. .	. .	+ 1 26.5	2 43.2	161 19 10.2	32 25 31.0	101.3		
61	. .	. .	. .	— 58.4	2 21.4	158 36 24.6	— 29 42 45.4	+ 99.2		
62	72.6	70.0	. .	+ 13.7	1 12.8	322 31 26.2	+ 88 34 54.5	— 70.7		
63	. .	. .	. .	— 7.8	1 5.1	139 20 57.0	— 10 27 17.8	+ 91.4		
64	. .	. .	. .	+ 2 5.8	+ 45.0	128 47 50.0	+ 0 5 49.2	+ 86.9		
65	. .	. .	. .	+ 2 56.0	— 45.0	231 12 10.1	+ 0 5 49.3			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
May 30	1	η Ursæ Majoris, (Ref.)	. .	4	I–IV.	281 4 61.6	64.2	62.0	58.1	59.9	62.9	61.45	28.639	.671	. .
	2	η Ursæ Majoris	. .	4	VI–IX.	78 54 61.4	65.2	65.6	62.8	62.7	66.9	64.10	31.607	.582	. .
	3	Lacaille 5774	7.5	1	V.	157 59 60.6	62.4	61.7	59.5	57.0	59.0	60.03	37.136	.152	. .
	4	α Draconis	. .	4	I–IV.	63 54 60.1	62.6	63.4	61.8	59.8	63.5	61.87	34.988	.947	. .
	5	4 Ursæ Minoris	. .	3	III½–IV½.	50 44 60.6	65.3	64.4	63.0	62.3	66.4	63.67	33.687	.670	. .
	6	4 Ursæ Minoris, (Ref.)	. .	3	V–VI.	309 14 60.4	61.4	61.0	54.9	58.0	60.0	59.28	26.398	.422	30.010
	7	ι Cassiopeæ, S. P.	. .	4	IV–I.	15 44 60.2	62.5	63.4	61.4	57.7	60.1	60.86	31.676	.735	. .
	8	5 Ursæ Minoris, (Ref.)	. .	3	III–V.	307 24 61.0	62.9	61.4	56.5	58.5	60.5	60.13	32.349	.390	. .
	9	5 Ursæ Minoris	. .	3	VI–VII.	52 34 61.6	63.0	64.1	63.5	60.7	65.6	63.08	27.719	.682	. .
	10	O. Arg. S. 14046	8.5	5	III–VII.	157 49 60.0	62.1	61.2	59.2	56.7	60.0	59.87	29.608	.616	. .
	11	20 Libræ	4.0	5	III–VII.	153 34 60.2	61.6	60.5	58.9	56.0	59.7	59.48	26.848	.856	30.005
	12	O. Arg. S. 14289	7.5	5	III–VII.	154 49 60.3	63.0	61.3	58.8	58.0	60.4	60.30	29.587	.596	. .
	13	2 Lupi	4.5	1	V.	158 29 61.5	63.2	63.5	61.2	57.4	60.1	62.82	29.696	.699	. .
	14	Jupiter S. L.	. .	3	I–IX.	145 39 61.6	63.6	62.1	59.2	59.1	61.6	61.20	27.988	.009	. .
	15	Jupiter N. L.	. .	2	III, VII.	" " "	"	"	"	"	"	"	29.342	.361	. .
	16	Thetis	. .	1	V.	137 59 60.9	64.5	61.5	59.7	58.9	60.9	61.07	26.642	.645	. .
	17	Nadir 15h. 45m.	. .	6	. .	269 59 60.5	62.5	60.9	60.0	59.0	62.4	60.88d	30.086	.100	. .
	18	δ Scorpii	. .	4	VI–IX.	151 4 60.9	63.8	63.8	61.1	57.9	60.6	61.35	28.280	.307	. .
	19	α Lyræ	. .	5	III–VII.	90 14 60.4	66.8	63.1	62.8	60.0	63.2	62.72	31.844	.843	. .
	20	Venus	. .	5	I–IX.	110 9 59.1	67.7	60.4	61.4	59.7	62.6	61.82	31.170	.179	30.065
31	21	α Canis Majoris	. .	5	I–IX.	145 24 58.7	64.0	57.3	61.5	59.0	62.2	60.45	31.023	.043	30.050
	22	Nadir 12h. 35m.	. .	5	. .	269 59 57.0	58.7	55.4	55.0	56.6	62.3	57.50	30.002	.012	. .
	23	Saturn S. L.	. .	3	I–IX.	130 59 57.7	62.3	56.9	55.5	56.5	61.5	58.40	31.071	.087	30.005
	24	Saturn N. L.	. .	2	III, VII.	" " "	"	"	"	"	"	"	31.603	.607	. .
	25	Anon. 13h. 31m. 14s.	. .	1	V.	155 24 53.0	57.9	54.1	52.0	53.1	55.0	54.18	28.005	.017	. .
	26	α Bootis, (Ref.)	. .	5	I–IX.	249 59 60.0	61.8	61.7	61.0	62.6	66.6	62.28	29.984	.003	30.020
	27	Lacaille 6035	. .	3	II–VIII.	155 24 61.1	64.3	61.7	59.4	59.5	61.5	61.25	31.219	.223	. .
	28	α² Libræ, (Ref.)	. .	1	V.	215 39 59.2	62.5	63.2	61.8	58.2	66.2	61.85	32.073	.068	30.010
	29	Jupiter S. L.	. .	3	I–IX.	145 39 58.4	62.3	58.6	56.5	56.9	61.5	59.03	31.070	.075	. .
	30	Jupiter N. L.	. .	2	III, VII.	" " "	"	"	"	"	"	"	32.370	.380	. .
	31	Nadir 15h. 45m.	. .	3	. .	269 59 58.1	62.9	58.6	61.0	59.0	63.4	60.50	30.083	.093	. .
	32	α Lyræ	. .	5	III–VII.	90 14 58.6	62.6	59.1	58.0	57.8	61.2	59.55	31.754	.757	. .
June 1	33	Sun S. L.	. .	4	I–IV.	106 59 60.3	66.1	61.8	60.4	61.4	63.6	62.27	30.840	.842	. .
	34	Sun N. L.	. .	4	VI–IX.	106 29 59.3	67.1	60.7	60.2	61.9	63.1	62.05	33.827	.814	30.013
	35	Nadir 15h. 30m.	. .	3	. .	269 59 60.5	60.1	59.1	56.0	58.9	62.3	59.48	29.979	.989	. .
	36	Jupiter S. L.	. .	2	V, VII.	145 34 60.4	61.2	59.7	55.6	57.0	61.1	59.17	24.538	.546	29.912
	37	Jupiter N. L.	. .	2	VI, VIII.	" " "	"	"	"	"	"	"	25.898	.909	. .
	38	Thetis	. .	1	V.	137 59 61.0	62.1	59.0	55.8	57.3	60.4	59.27	26.250	.267	. .
	39	κ Libræ	. .	1	V.	148 4 61.2	59.7	60.3	57.0	56.0	59.3	58.92	27.361	.375	. .
	40	B. A. C. 1211, S. P.	. .	3	5–1.	29 14 61.0	62.2	63.1	62.3	60.9	63.3	62.13	31.608	.613	. .
	41	c² Scorpii	. .	5	III–VII.	156 24 61.1	61.9	59.8	58.2	56.4	61.0	59.73	28.443	.450	. .
	42	Lacaille 6765	. .	1	V.	163 19 62.1	63.1	62.0	59.4	58.0	61.8	61.07	30.948	.957	. .
	43	Lacaille 6774	. .	1	V.	" " "	"	"	"	"	"	"	20.046	.060	. .
	44	Lacaille 6806	. .	1	V.	" " "	"	"	"	"	"	"	17.422	.434	. .
	45	η Ursæ Minoris	. .	5	III–VII.	52 49 62.0	62.6	63.7	61.5	60.0	65.2	62.50	29.585	.560	29.915
3	46	Polaris, S. P., (Ref.)	. .	3	V–1.	322 29 59.3	60.9	60.2	56.7	55.7	56.4	58.20	29.558	.561	30.074
	47	k Virginis	6.3	1	V.	138 19 60.5	62.9	59.5	59.1	57.1	59.1	59.70	28.889	.896	. .
	48	Nadir 13h. 40m.	. .	3	. .	269 59 59.8	61.9	59.6	59.8	57.6	60.5	59.87	30.057	.070	. .
	49	Anon. 13h. 41m. 49s.	8.3	3	IV–VI.	164 44 60.9	63.2	62.9	62.1	58.4	60.1	61.27	27.692	.697	. .
	50	Lacaille 5754	8.0	1	V.	158 44 60.4	63.4	62.7	61.7	56.9	58.3	60.57	27.942	.951	. .
	51	Anon. 13h. 50m. 11s.	8.0	1	V.	159 9 60.8	63.1	62.8	61.3	57.0	58.5	60.58	31.255	.272	30.080
	52	α Draconis, (Ref.)	. .	5	III–VII.	296 9 60.0	62.0	59.7	57.9	57.2	57.9	59.12	34.663	.682	. .
	53	4 Ursæ Minoris	5.5	5	IV–VI.	50 44 59.3	63.4	63.5	62.6	59.0	63.9	61.95	33.623	.616	. .
	54	5 Ursæ Minoris	. .	3	III–IV.	52 34 58.8	61.6	61.6	62.3	57.7	62.1	60.68	27.632	.673	. .
	55	5 Ursæ Minoris, (Ref.)	. .	1	VII.	307 24 58.8	61.0	59.3	55.2	55.5	57.2	57.83	32.260	.336	30.066
	56	B. A. C. 4880	6.0	5	III–VII.	154 24 59.6	62.2	60.9	58.7	55.5	57.4	59.05	34.218	.239	. .
	57	α Libræ	. .	4	VI–IX.	144 19 62.2	65.2	62.0	61.6	59.0	60.1	61.68	28.218	.242	. .
	58	O. Arg. S. 14278	8.7	1	V.	157 44 61.4	63.4	62.1	61.5	56.8	58.2	60.57	35.917	.925	. .
	59	Jupiter S. L.	. .	5	I–IX.	145 34 61.5	64.0	61.5	60.2	58.1	60.6	60.98	30.674	.684	30.065
	60	Jupiter N. L.	. .	4	II–VIII.	" " "	"	"	"	"	"	"	32.007	.024	. .
	61	Thetis	10.0	1	V.	137 59 61.8	65.0	61.1	60.6	57.1	59.9	60.92	34.696	.699	. .
	62	Anon. 15h. 25m. 0s.	9.0	1	V.	" " "	"	"	"	"	"	"	30.146	.163	. .
	63	Anon. 15h. 33m. 32s.	7.7	1	VI.	168 24 61.1	63.1	63.0	63.8	56.4	58.6	61.00	36.654	.661	. .
	64	O. Arg. S. 14839	8.5	5	III–VII.	151 14 61.3	63.1	62.1	61.9	57.0	59.2	60.77	36.940	.952	. .
	65	B. A. C. 1211, S. P.	. .	5	VI–IV.	29 14 62.5	67.5	66.3	69.5	62.1	63.9	65.30	31.662	.678	. .
	66	B. A. C. 5345	. .	5	III–VII.	152 59 59.0	60.9	61.5	58.5	54.1	58.0	58.67	34.785	.789	. .

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	30.073	+ 44.0	+ 11.0	281 5 56.4	+ 49 59 35.6	+ 72.0	N.	
2	. .	. .	. .	− 47.3	− 11.0	78 54 5.8	+ 49 59 33.4			
3	. .	. .	. .	3 41.8	+ 2 17.4	157 58 35.6	− 29 4 56.4	88.9		
4	. .	. .	. .	2 32.7	− 27.5	63 52 1.6	+ 65 1 37.6	66.4		
5	. .	. .	. .	− 1 52.7	− 45.9	50 42 25.0	78 11 14.2	+ 63.4		
6	72.0	68.5	. .	+ 1 54.4	+ 45.9	309 17 39.5	78 11 18.8			
7	. .	. .	. .	− 52.1	− 3 16.3	15 40 52.4	66 47 13.1	− 60.7		
8	. .	. .	. .	− 1 12.6	+ 42.9	307 24 30.4	76 18 9.6	+ 59.9		
9	. .	. .	. .	+ 1 14.9	− 42.9	52 35 35.0	+ 76 18 4.2			
10	. .	. .	. .	14.3	+ 2 17.0	157 52 31.1	− 28 58 51.9	72.4		Faint.
11	71.5	67.7	. .	1 40.8	1 52.8	153 38 33.0	24 44 53.8	68.9		
12	. .	. .	. .	14.9	1 59.0	154 52 14.2	25 58 35.0	67.5		
13	. .	. .	. .	11.7	2 21.7	158 32 36.2	29 38 57.0	64.8		
14	. .	. .	. .	1 4.7	1 20.6	145 42 26.5	16 48 26.0			
15	. .	. .	. .	22.3	1 20.6	145 41 44.1				
16	. .	. .	. .	1 47.4	1 2.5	138 2 50.9	9 9 11.7			
17										
18	. .	. .	. .	+ 55.3	1 41.6	151 7 38.2	− 22 13 59.0	+ 48.1		
19	. .	. .	. .	− 55.5	0.2	90 14 7.4	+ 38 39 31.8	− 11.8	Ha.	
20	77.7	86.4	30.085	34.3	18.2	110 9 45.7	+ 18 43 53.5		D.	
21	76.0	87.7	. .	30.0	1 18.5	145 25 48.9	− 16 32 9.7	+ 27.6		
22										Image not very distinct.
23	75.7	75.0	. .	31.4	47.5	131 0 14.5	2 6 27.1			
24	. .	. .	. .	− 47.7	47.5	130 59 58.2				
25	. .	. .	. .	+ 1 4.8	+ 2 0.9	155 27 59.8	− 26 34 20.6	92.7		
26	75.0	72.4	. .	+ 2.6	− 20.3	249 59 44.5	+ 18 53 23.8	73.6		
27	. .	. .	. .	− 35.7	+ 2 1.2	155 26 26.7	− 26 32 47.5	76.9		
28	74.5	71.8	. .	1 2.8	− 1 17.6	215 37 41.4	15 28 39.3	+ 71.7		
29	. .	. .	. .	31.0	+ 1 19.9	145 40 47.9	− 16 46 48.2			
30	. .	. .	. .	1 11.9	1 19.9	145 40 7.0				
31										
32	. .	. .	. .	52.4	0.2	90 14 7.3	+ 38 39 31.9	− 12.1	Ha.	
33	. .	. .	. .	26.2	14.1	106 59 50.1	+ 22 9 36.0		N.	
34	77.5	87.8	30.006	− 1 59.3	13.6	106 28 16.3				
35										
36	76.0	74.0	. .	+ 2 51.1	1 19.2	145 39 9.4	− 16 45 8.8			
37	. .	. .	. .	2 8.4	1 19.2	145 38 16.7				
38	. .	. .	. .	1 57.2	1 1.5	138 2 57.9	9 9 18.7			Faint and uncertain.
39	. .	. .	. .	+ 1 22.4	+ 1 28.8	148 7 50.1	− 19 14 10.9	+ 54.8		
40	. .	. .	. .	− 50.4	− 1 38.7	29 12 33.0	+ 80 18 53.8	− 39.5		
41	. .	. .	. .	+ 48.8	+ 2 6.4	156 27 54.9	− 27 34 15.7	+ 43.7		Unsteady.
42	. .	. .	. .	− 29.8	3 2.8	163 22 34.0	34 28 54.8	42.0		Unsteady.
43	. .	. .	. .	+ 5 11.6	3 3.9	163 28 16.5	34 34 37.3	41.7		Fair.
44	. .	. .	. .	6 33.9	+ 3 4.2	163 29 39.1	− 34 35 59.9	39.6		Unsteady.
45	75.6	72.6	. .	14.0	− 42.1	52 49 34.4	+ 76 4 4.8	+ 30.7		
46	71.0	66.7	30.074	16.1	+ 1 13.4	322 31 27.7	+ 88 34 53.0	− 70.2		
47	. .	. .	. .	36.9	1 3.4	138 21 40.0	− 9 28 0.8	+ 89.5		Very steady.
48										
49	. .	. .	. .	1 14.5	3 24.3	164 49 40.0	35 56 0.8	92.5		
50	. .	. .	. .	+ 1 6.5	2 24.3	158 48 31.3	29 54 52.1	89.7		
51	70.5	66.1	. .	− 37.5	2 27.3	159 11 50.3	− 30 18 11.1	89.3		
52	. .	. .	. .	2 24.4	+ 27.8	296 7 62.5	+ 65 1 41.8	65.5		Very good.
53	. .	. .	. .	− 1 51.0	− 46.3	50 42 24.6	78 11 14.6	62.4		
54	. .	. .	. .	+ 1 15.2	− 43.3	52 35 32.5	76 18 6.7	59.1		
55	70.2	64.6	. .	− 1 10.9	+ 43.3	307 24 30.2	+ 76 18 9.5			Only ½ weight.
56	. .	. .	. .	− 2 10.5	1 57.8	154 24 46.3	− 25 31 7.1	74.4		
57	. .	. .	. .	+ 57.4	1 19.0	144 22 18.0	15 28 38.8	71.6		
58	. .	. .	. .	− 3 3.3	2 17.8	157 44 15.0	28 50 35.8	68.1		
59	68.5	62.3	. .	19.1	1 21.4	145 36 3.2	16 42 3.0			
60	. .	. .	. .	1 1.1	1 21.3	145 35 21.1				
61	. .	. .	. .	2 24.9	1 3.1	137 58 39.1	9 4 59.9			Faint and uncertain.
62	. .	. .	. .	2.8	1 3.1	138 1 1.2	9 7 22.0	56.8		
63	. .	. .	. .	3 26.4	4 29.4	168 26 4.0	39 32 24.8	56.9		
64	. .	. .	. .	3 35.5	+ 1 43.3	151 13 8.5	− 22 19 29.3	+ 53.7		
65	. .	. .	. .	50.3	− 1 41.6	29 12 33.4	+ 80 18 54.2	− 39.0		
66	. .	. .	. .	− 2 27.7	+ 1 51.3	152 59 22.2	− 24 5 43.0	+ 44.8		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES. A.	B.	C.	D.	E.	F.	Mean.	MICROMETER. Observed.	Correc'd.	Barometer.
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. June 3	1	ν Scorpii	4.3	1	V.	147 59 59.7	62.3	61.0	61.1	54.5	58.9	59.58	32.960	.970	. .
	2	Anon. 16h. 10m. 36s.	9.2	1	IX.	158 54 60.2	63.5	63.0	63.8	55.6	58.9	60.83	26.949	.986	. .
	3	O. Arg. S. 15275	. .	3	III-VII.	152 49 60.5	63.3	62.7	62.1	56.5	59.2	60.72	26.679	.686	. .
	4	O. Arg. S. 15788	. .	3	III-VII.	" " "	"	"	"	"	"	"	43.243	.265	30.097
	5	α Lyræ	. .	5	III-VII.	90 14 61.2	68.1	64.0	66.1	60.1	63.3	63.80	31.938	.947	. .
4	6	Sun N. L.	. .	4	I-IV.	106 4 58.9	65.5	61.4	63.1	60.0	61.1	61.67	27.896	.898	. .
	7	Sun S. L.	. .	4	VI-IX.	106 34 58.5	64.4	61.3	61.4	58.5	60.0	60.68	24.970	.964	. .
6	8	Sun S. L.	. .	4	I-IV.	106 24 59.0	64.7	58.1	59.1	58.9	61.8	60.27	29.882	.883	. .
	9	Sun N. L.	. .	4	VI-IX.	105 54 58.5	64.8	59.0	60.0	60.7	62.1	60.85	32.844	.834	29.932
	10	Nadir 5h. 15m.	. .	3	. .	269 59 57.4	55.5	55.1	53.9	54.7	59.0	55.93	29.943	.953	. .
	11	α Canis Majoris	. .	4	I-IX.	145 24 61.1	63.3	56.7	57.6	57.1	61.8	59.60	31.023	.046	. .
	12	4 Ursæ Minoris	.	1	V.	50 44 60.7	64.0	64.5	62.1	63.1	66.6	63.50	33.644	.647	30.006
	13	Venus	. .	5	I-IX.	108 9 61.1	69.6	63.3	63.9	59.8	62.6	63.38	27.353	.358	30.313
7	14	Sun S. L.	. .	2	VII, IX.	106 19 61.1	70.5	64.5	66.5	63.4	63.8	64.97	31.355	.352	30.315
	15	Nadir 13h. 50m.	. .	3	. .	269 59 58.9	64.5	60.5	62.0	58.5	61.3	60.95	30.016	.025	. .
	16	ι Bootis	. .	4	I-IX.	76 49 59.3	65.0	62.6	63.4	59.9	62.4	62.10	22.198	.175	30.240
	17	B. A. C. 5265	. .	1	V.	154 39 59.7	66.5	62.0	61.9	58.7	59.2	61.33	23.350	.365	30.280
	18	B. A. C. 5395	. .	1	V.	149 54 61.1	69.2	64.6	66.8	61.2	62.0	64.15	30.035	.048	. .
	19	Nadir 16h. 50m.	. .	4	. .	269 59 62.3	69.4	64.1	68.0	62.6	65.6	65.33	30.197	.206	. .
	20	α Lyræ	. .	5	III-VII.	90 14 58.8	64.7	60.0	61.1	57.0	60.1	60.28	31.875	.881	. .
9	21	Sun N. L.	. .	2	I, III.	105 39 60.1	66.4	60.9	60.5	61.0	63.1	62.00	34.766	.758	. .
	22	Sun S. L.	. .	2	VI, VIII.	106 9 61.9	69.4	63.0	63.5	64.8	66.2	64.80	31.998	.000	29.575
10	23	Sun S. L.	. .	4	I-IV.	106 4 58.7	66.4	61.4	62.2	59.5	61.2	61.57	30.895	.898	. .
	24	Sun N. L.	. .	4	VI-IX.	105 34 58.1	65.8	60.9	62.1	59.5	61.0	61.23	33.782	.770	29.844
	25	Nadir 13h. 0m.	. .	6	. .	269 59 59.6	63.1	60.2	60.1	58.0	59.9	60.15d	29.996	.006	. .
	26	Polaris, S. P.	. .	5	4-2.	37 29 59.6	64.7	63.8	65.5	59.4	61.4	62.40	30.368	.384	29.887
	27	α Virginis	. .	5	I-IX.	139 19 61.2	65.3	60.6	62.6	58.0	59.8	61.25	30.378	.397	. .
	28	O. Arg. S. 12920	8.3	5	III-VII.	159 14 60.9	64.4	63.3	63.4	57.0	59.7	61.45	34.464	.478	. .
	29	Anon. 13h. 41m. 9s.	8.3	1	V.	158 54 60.4	64.2	62.8	63.5	56.9	59.4	61.20	33.022	.035	. .
	30	Anon. 13h. 50m. 10s.	. .	1	V.	159 4 59.9	63.4	62.1	63.0	56.4	58.7	60.58	21.807	.811	29.907
	31	Lacaille 5855	. .	5	III-VII.	152 34 59.5	62.2	61.5	60.5	54.9	58.5	59.52	29.912	.232	. .
	32	4 Ursæ Minoris	. .	5	IV-VI.	50 44 58.4	64.1	63.5	63.6	58.7	62.8	61.85	33.662	.654	. .
	33	Lacaille 5956	7.0	5	III-VII.	154 14 60.1	63.9	61.8	60.7	56.1	58.0	60.10	27.773	.780	. .
	34	5 Ursæ Minoris	4.3	5	III-VII.	52 34 58.5	63.1	63.0	63.8	58.3	61.7	61.40	27.729	.701	. .
	35	Lacaille 6060	9.0	5	III-VII.	156 4 59.5	63.1	60.9	61.4	55.4	57.5	59.63	31.965	.979	29.920
	36	Anon. 14h. 41m. 42s.	9.0:	1	V.	165 39 59.3	63.7	60.8	62.4	55.9	58.6	60.12	30.195	.212	. .
	37	B. A. C. 4982	. .	3	2-4.	45 49 59.6	64.5	64.5	64.9	59.1	60.4	62.17	29.316	.332	. .
	38	β¹ Scorpii, (Ref.)	. .	2	I, IV.	211 44 59.6	62.2	63.2	64.2	55.4	61.3	60.98	35.854	.850	. .
	39	β¹ Scorpii	. .	4	VI-IX.	148 19 60.1	63.5	62.2	62.0	55.7	57.9	60.23	33.853	.866	29.929
11	40	Sun N. L.	. .	1	IX.	105 29 61.5	70.3	63.4	65.7	64.5	63.8	64.87	32.282	.274	30.001
12	41	Merc'y, centre of light	. .	1	VI.	112 19 59.4	65.3	59.3	62.4	58.1	61.7	61.03	26.934	.936	30.275
	42	Venus	. .	1	V.	106 49 57.0	64.6	59.4	59.4	56.4	58.5	59.22	26.079	.094	30.267
13	43	Moon N. L.	. .	5	I-IX.	136 9 58.8	64.3	58.9	59.0	56.9	59.6	59.58	26.853	.865	30.199
	44	Saturn	. .	5	I-IX.	130 59 59.5	62.9	57.4	58.5	55.8	58.2	58.72	31.535	.542	. .
	45	B. A. C. 4342	. .	3	V-5.	44 44 59.5	63.3	62.0	61.8	58.6	60.5	60.95	29.353	.367	30.194
	46	50 Cassiopeæ, S. P.	. .	5	VII-III.	20 39 59.6	65.4	64.1	65.3	59.9	59.5	62.30	26.797	.824	30.197
	47	Anon. 14h. 0m. 28s.	7.7	3	IV-VI.	161 14 59.1	62.2	62.2	61.0	54.6	58.4	59.58	29.166	.185	. .
	48	4 Ursæ Minoris	4.2	5	IV-VI.	50 44 59.5	65.3	63.9	64.5	59.7	63.8	62.78	33.668	.660	. .
	49	ι Cassiopeæ, S. P.	. .	4	IX-VI.	15 44 59.7	64.2	63.1	63.7	57.5	58.8	61.17	31.543	.605	. .
	50	Lacaille 6035	7.5	5	III-VII.	155 24 58.9	62.3	60.9	60.4	55.5	57.1	59.18	31.200	.221	30.191
	51	Nadir 14h. 50m.	. .	6	. .	269 59 59.2	63.4	61.0	62.2	58.3	60.4	60.75d	30.022	.010	. .
	52	20 Libræ	. .	5	I II, VII.	153 34 58.9	63.2	61.8	61.1	55.3	58.2	59.75	26.916	.927	. .
	63	O. Arg. S. 14279	9.0	5	III-VII.	150 24 59.6	63.5	62.6	62.5	57.2	57.7	60.52	27.276	.296	. .
	54	Jupiter S. L.	. .	3	I-IX.	145 19 58.8	63.8	60.5	59.7	57.4	59.0	59.87	28.348	.373	. .
	55	Jupiter N. L.	. .	2	III, VII.	" " "	"	"	"	"	"	"	29.736	.743	. .
	56	O. Arg. S. 14435	9.5	1	V.	159 9 58.9	63.5	62.9	62.5	55.6	57.4	60.13	28.524	.531	30.190
	57	γ³ Ursæ Minoris	3.3	5	III-VII.	56 34 59.6	65.0	63.9	66.6	59.8	64.5	63.23	29.936	.920	. .
	58	κ Libræ	. .	3	IV-VI.	148 4 59.7	62.2	61.8	61.1	54.8	56.7	59.38	27.443	.455	. .
	59	Anon. 15h. 39m. 18s.	8.5	1	V.	" " "	"	"	"	"	"	"	33.346	.361	. .
	60	B. A. C. 5211	8.0	1	V.	154 19 59.2	64.4	62.3	61.4	56.5	58.5	60.38	19.406	.419	. .
	61	π Scorpii	3.2	5	III-VII.	154 34 59.2	64.1	62.1	62.0	56.0	58.6	60.33	30.194	.215	30.185
	62	B. A. C. 5354	6.8	5	III-VII.	152 9 58.8	62.5	61.5	61.6	55.3	58.4	59.68	27.977	.991	. .
	63	B. A. C. 5421	8.8	5	III-VII.	158 14 58.5	62.9	62.2	62.3	54.9	56.7	59.58	29.190	.211	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	30.074	– 1 30.7	+ 1 31.0	147 59 59.8	– 19 6 20.6	+ 43.1	N.	
2	- -	- -	. .	+ 1 36.8	2 27.2	158 59 4.8	30 5 25.6	41.1		
3	- -	- -	. .	+ 1 46.2	1 51.0	152 53 37.9	23 59 58.7	34.5		
4	68.0	61.0	. .	– 6 53.3	1 50.3	152 44 57.7	– 23 51 18.5	+ 32.5		Faint and uncertain. Barometer and thermometer calculated from Meteorological Journal, and observations at transit of Jupiter.
5	- -	- -	. .	– 58.7	0.2	90 14 5.3	+ 38 39 33.9	– 13.1	Ha.	
6	- -	- -	. .	+ 1 8.2	13.7	106 6 23.5	22 31 30.0		N.	
7	70.0	77.2	. .	2 40.1	14.2	106 37 54.9				
8	- -	- -	30.083	+ 6.3	13.6	106 25 20.1	+ 22 44 5.3			
9 10	74.0	86.4	. .	– 1 26.2	13.1	105 53 47.7				
11	75.0	86.8	. .	30.2	+ 1 18.3	145 25 47.7	– 16 32 8.5	+ 26.8		Wire V omitted.
12	73.5	67.4	. .	– 1 51.7	– 46.0	50 42 25.8	+ 78 11 13.4	62.0		Faint; very cloudy; only ½ weight.
13	67.5	67.7	30.000	+ 1 22.8	+ 17.1	108 11 43.3	20 41 55.9		D.	
14 15	68.3	68.0	. .	– 42.4	– 15 33.1	106 3 49.4	22 49 49.8			
16	68.0	62.5	. .	+ 4 5.2	– 13.3	76 53 54.0	+ 51 59 45.2	65.1		Wire V omitted.
17	66.7	60.4	. .	+ 3 27.9	+ 2 1.3	154 45 30.5	– 25 51 51.3	50.6		
18	- -	59.5	. .	– 1.4	1 39.2	149 56 41.9	– 21 3 2.7	+ 42.7		
19 20	- -	- -	. .	58.9	0.2	90 14 1.5	+ 38 39 37.7	– 14.3	Ha.	Image faint and unsteady.
21	- -	- -	. .	2 29.1	12.8	105 37 45.7	23 0 8.7		D.	
22	73.0	85.0	. .	1 2.7	13.2	106 9 15.3				
23	- -	- -	30.001	28.1	13.8	106 4 47.2	23 4 37.4		N.	
24 25	69.0	67.5	. .	1 58.1	+ 13.3	105 33 16.4				Unsteady.
26	69.0	63.5	. .	12.0	– 1 13.5	37 28 36.9	+ 88 34 57.7	– 69.5		
27	- -	- -	. .	12.4	+ 1 5.6	139 20 54.4	– 10 27 15.2	+ 91.0		
28	- -	- -	. .	2 20.3	2 29.0	159 15 10.1	30 21 30.9	95.4		
29	- -	- -	. .	– 1 35.1	2 25.3	158 55 51.4	30 2 12.2	91.7		
30	68.3	63.1	. .	+ 4 16.6	2 27.3	159 11 44.4	30 18 5.2	89.7		Cloudy.
31	- -	- -	. .	+ 24.1	+ 1 48.7	152 37 12.3	– 23 43 33.1	84.4		
32	- -	- -	. .	– 1 54.5	– 46.3	50 42 21.0	+ 78 11 18.2	61.0		
33	- -	- -	. .	+ 1 9.6	+ 1 57.0	154 18 6.7	– 25 24 27.5	80.2		
34	- -	- -	. .	+ 1 12.1	– 43.3	52 35 30.2	+ 76 18 9.0	57.6		
35	- -	61.5	. .	– 1 2.0	+ 2 7.2	156 6 4.8	– 27 12 25.6	76.7		
36	- -	-	. .	– 6.6	+ 3 38.3	165 43 31.8	– 36 49 52.6	76.3		
37	- -	- -	. .	+ 21.0	– 55.1	45 49 28.0	+ 83 4 11.2	50.0		Through clouds.
38	- -	- -	. .	– 3 3.3	– 1 32.0	211 40 25.7	– 19 25 55.1	40.8		
39	65.7	59.7	. .	2 1.1	+ 1 32.0	148 19 31.1	– 19 25 51.9	40.8		
40	68.5	68.2	. .	– 1 11.2	16 0.4	105 44 54.0	+ 23 8 45.2		D.	
41	68.3	70.0	30.010	+ 1 36.3	18.9	112 21 56.2	16 31 43.0		N.	
42	69.0	68.4	. .	2 2.7	+ 15.7	106 52 17.6	+ 22 1 21.6			Cloudy. Very unsteady.
43	70.2	66.4	. .	+ 1 38.5	– 23 35.4	135 48 2.7	– 6 54 23.5			
44	- -	- -	. .	– 48.0	+ 48.7	130 59 59.4	– 2 6 20.2			
45	- -	65.3	. .	+ 20.2	– 57.3	44 44 23.8	+ 84 9 15.4	+ 71.6		
46	67.3	61.1	. .	1 39.8	– 2 30.5	20 39 11.6	+ 71 45 32.4	– 63.7		
47	- -	- -	. .	+ 25.8	+ 2 47.3	161 18 12.6	– 32 24 33.4	+ 87.9		
48	- -	- -	. .	– 1 54.4	– 46.9	50 42 21.4	+ 78 11 17.8	+ 60.5		
49	- -	- -	. .	50.0	– 3 20.8	15 40 50.3	+ 66 47 11.1	– 59.3		
50	- -	59.6	. .	– 37.9	+ 2 4.9	155 26 26.1	– 26 32 46.9	+ 77.4		
51 52	- -	- -	. .	+ 1 36.6	1 55.6	153 38 31.9	24 44 52.7	69.4		
53	- -	- -	. .	1 25.0	1 41.3	150 28 6.8	21 34 27.6	67.2		
54	- -	- -	. .	51.3	1 21.7	145 22 12.8	16 28 12.1			
55	- -	- -	. .	8.4	1 21.7	145 21 29.9				
56	- -	57.7	. .	46.3	+ 2 30.5	159 13 16.9	– 30 19 37.7	65.4		Uncertain. Extremely faint.
57	- -	- -	. .	2.8	– 38.1	56 34 27.9	+ 72 19 11.3	44.6		
58	- -	- -	. .	+ 1 20.1	+ 1 32.6	148 7 52.0	– 19 14 12.8	54.8		
59	- -	- -	. .	– 1 45.0	1 32.4	148 4 46.7	19 11 7.5	52.9		
60	- -	- -	. .	+ 5 31.8	2 0.1	154 27 32.2	25 33 53.0	53.6		
61	- -	56.6	. .	– 6.4	2 1.1	154 36 55.0	25 43 15.8	53.4		
62	- -	- -	. .	+ 1 3.3	1 49.2	152 12 52.1	23 19 12.9	45.1		
63	- -	- -	. .	+ 25.0	+ 2 24.1	158 17 48.6	– 29 24 9.4	+ 42.6		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ' "	"	"	"	"	"	"	r.	r.	in.
June 13	1	19 Scorpii	5.0	3	III–VII.	152 44 58.9	62.3	61.6	62.0	54.9	57.7	59.57	35.442	.457	. .
	2	O. Arg. S. 15612	9.0	1	V.	152 59 58.9	62.5	63.1	62.0	55.5	57.9	59.98	28.622	.628	. .
	3	O. Arg. S. 15784	7.7	1	V.	151 29 59.7	63.6	63.1	62.9	56.5	58.0	60.63	32.399	.412	. .
	4	Anon. 16h. 35m. 30s.	. .	5	III–VII.	167 54 60.2	64.9	65.1	65.6	57.9	58.4	62.02	25.796	.806	30.183
	5	O. Arg. S. 16047	7.5	1	V.	158 59 59.8	65.0	64.9	64.6	56.1	58.5	61.48	24.197	.214	. .
14	6	Mercury	. .	3	III–VII.	111 54 60.5	67.5	60.8	64.8	60.2	62.5	62.72	32.688	.688	30.040
	7	Venus	. .	1	V.	106 29 59.0	69.8	60.7	64.5	61.4	61.7	62.85	29.295	.311	30.031
15	8	Sun N. L.	. .	4	VI–IX.	105 14 56.8	66.1	59.4	62.4	60.9	60.6	61.03	26.980	.976	30.021
	9	B. A. C. 4342	. .	3	1–5.	44 44 56.7	61.5	59.1	57.3	58.7	58.4	58.62	29.293	.308	29.972
	10	Polaris, S. P.	. .	5	5–1.	37 29 57 5	62.4	60.9	60.2	59.9	60.0	60.15	30.354	.373	. .
	11	ζ Ursæ Majoris	. .	5	III–VII.	73 14 58.3	63.3	61.0	61.2	61.5	63.5	61.47	28.732	.724	. .
	12	Nadir 13h. 40m.	. .	4	. .	269 59 58.6	59.5	57.8	56.4	58.7	61.1	58.68	29.937	.947	. .
	13	Lacaille 5692	. .	1	V.	156 19 59.5	62.1	58.2	56.9	57.3	58.7	58.78	25.598	.602	. .
	14	50 Cassiopeæ, S. P.	. .	5	VII–III.	20 39 59.6	62.7	61.6	60.5	59.7	60.0	60.68	26.896	.926	29.973
	15	4 Ursæ Minoris, (Ref.)	. .	3	Near IV.	309 14 59.5	61.0	58.9	53.6	57.2	59.3	58.25	26.222	.261	. .
	16	Moon N. L.	. .	5	III–VII.	143 54 60.4	62.9	59.8	57.7	59.6	61.0	60.23	32.965	.977	. .
	17	5 Ursæ Minoris	. .	3	IV–V.	52 34 60.4	63.3	63.7	62.4	61.5	64.9	62.70	27.759	.755	. .
	18	5 Ursæ Minoris, (Ref.)	. .	4	VI–IX.	307 24 59.6	61.6	57.8	53.8	60.2	59.8	58.80	32.130	.246	. .
	19	β Ursæ Minoris, (Ref.)	. .	2	V, VI.	305 49 60.3	61.8	58.1	56.5	57.8	59.9	59.07	32.874	.888	. .
	20	β Ursæ Minoris	. .	2	VIII, IX.	54 9 60.5	63.3	62.1	61.6	61.7	64.4	62.27	27.333	.206	29.989
	21	Jupiter S. L.	. .	2	V, VII.	145 19 61.4	63.6	59.5	58.0	58.7	61.7	60.48	32.765	.770	. .
	22	Jupiter N. L.	. .	2	VI, VIII.	“ “ “	“	“	“	“	“	“	34.056	.075	. .
	23	B. A. C. 5039	7.3	1	V.	152 39 60.5	62.5	61.8	59.5	58.4	61.3	60.67	33.964	.974	. .
	24	B. A. C. 5041	7.3	1	V.	“ “ “	“	“	“	“	“	“	33.295	.311	. .
	25	α Cor. Borealis, (Ref.)	. .	4	I–IV.	258 14 59.6	62.1	60.9	60.9	61.2	65.3	61.67	26.194	.223	. .
	26	α Coronæ Borealis	. .	3	VII–IX.	101 39 60.1	64.6	60.0	60.1	60.1	63.0	61.32	24.418	.414	29.986
	27	ε Serpentis	. .	2	II, III.	123 59 60.5	56.5	52.9	51.4	52.1	54.9	54.72	30.424	.434	. .
	28	ε Serpentis, (Ref.)	. .	4	VI–IX.	235 59 60.1	61.3	63.0	60.6	60.3	64.2	61.58	29.499	.509	. .
	29	δ Scorpii	. .	5	I–IX.	151 4 60.4	63.0	62.0	58.4	58.0	59.5	60.22	28.201	.228	. .
	30	B. A. C. 5364	7.5	5	III–VII.	155 24 60.8	63.4	61.0	59.0	58.3	60.1	60.43	31.013	.029	. .
	31	B. A. C. 5395	7.0	1	V.	149 54 60.9	63.0	61.8	59.4	58.5	59.7	60.55	29.901	.908	. .
	32	O. Arg. S. 15466	6.8	5	III–VII.	“ “ “	“	“	“	“	“	“	39.938	.950	. .
	33	ρ Ophiuchi, (South *)	6.0	1	V.	151 59 61.5	63.9	62.5	59.9	59.8	61.2	61.47	30.516	.524	29.978
	34	ρ Ophiuchi, (North *)	7.0	1	VIII.	“ “ “	“	“	“	“	“	“	30.622	.638	. .
	35	ζ Ophiuchi	3.0	5	I–IX.	139 9 61.3	64.8	61.8	60.0	60.6	60.4	61.48	30.275	.296	. .
	36	B. A. C. 5571	7.7	4	VI–IX.	153 4 60.6	62.1	62.0	59.9	58.3	60.5	60.57	32.187	.215	. .
	37	O. Arg. S. 15950	9.0	3	IV–VI.	157 34 60.0	63.6	61.0	59.6	58.4	58.5	60.18	32.025	.039	. .
	38	B. A. C. 5663	6.3	1	V.	149 4 58.8	61.0	59.7	57.4	56.2	56.9	58.33	33.509	.517	29.980
	39	Nadir	. .	4	. .	269 59 60.6	63.0	60.4	60.0	60.5	62.9	61.23	30.017	.029	. .
	40	Venus	. .	5	I–IX.	106 19 60.8	70.8	63.9	65.0	65.6	66.8	65.48	29.073	.077	29.978
16	41	Sun N. L.	. .	2	I, III.	105 14 59.8	70.7	63.5	65.0	65.6	66.2	65.13	30.956	.954	. .
	42	Sun S. L.	. .	2	VII, IX.	105 44 62.4	72.3	64.0	65.0	67.6	68.3	66.60	28.342	.342	29.979
	43	α Canis Majoris	. .	2	VII, IX.	145 24 63.0	69.9	62.3	62.5	64.7	65.5	64.65	31.248	.275	29.961
	44	Nadir 14h. 30m.	. .	3	. .	269 59 62.4	67.7	62.3	62.8	63.5	68.2	64.48	30.182	.191	. .
	45	Lacaille 6137	. .	1	V.	161 39 63.0	69.0	66.3	63.9	62.0	65.6	64.97	38.414	.426	29.964
	46	Moon N. L.	. .	5	I–IX.	146 49 59.0	64.3	59.7	62.6	59.2	61.6	61.07	24.980	.998	. .
	47	B. A. C. 5145	. .	3	II, V, VIII.	154 44 58.5	65.8	61.8	59.5	60.3	62.8	61.45	36.881	.897	29.964
	48	B. A. C. 1211, S. P.	. .	2	5, 1.	29 14 58.7	66.7	64.3	63.9	62.8	64.9	63.55	31.744	.748	. .
	49	δ Ophiuchi, (Ref.)	. .	3	III, V, VIII.	227 39 58.4	63.6	62.7	60.6	60.0	65.4	62.78	17.183	.199	29.964
	50	Lacaille 6925	. .	1	V.	157 34 57.7	64.3	61.0	59.3	58.3	60.2	60.13	36.737	.740	. .
	51	α Camelopardi, S. P.	. .	5	VII–III.	14 59 58.4	66.1	63.5	62.0	59.5	61.0	61.75	23.699	.719	. .
	52	ε Ursæ Minoris	. .	2	1, 5.	46 39 59.0	65.0	63.9	62.6	62.3	64.9	62.95	31.912	.919	29.972
	53	Nadir 17h. 35m.	. .	3	. .	269 59 59.5	65.3	60.7	61.2	60.2	65.1	62.00	30.099	.109	. .
	54	B. A. C. 6236	. .	1	V.	161 14 57.9	63.4	62.5	59.8	57.3	60.7	60.27	35.253	.270	29.975
	55	50 Draconis	. .	1	V.	53 39 58.8	65.4	63.9	62.6	61.0	64.6	62.72	34.026	.039	. .
	56	ζ Aquilæ, (Ref.)	. .	5	I–IX.	244 44 60.3	64.6	64.1	62.3	60.6	65.5	62.90	26.679	.688	29.980
	57	Mercury	. .	1	V.	111 19 62.2	66.5	59.0	60.9	61.0	65.0	62.43	28.925	.933	30.061
	58	Venus	. .	5	III–VII.	106 9 59.9	66.4	59.9	59.8	63.1	63.3	62.07	27.407	.417	30.062
17	59	Sun N. L.	. .	4	I–IV.	105 14 59.6	65.1	58.7	58.9	62.9	63.2	61.40	34.085	.090	. .
	60	Sun S. L.	. .	4	VI–IX.	105 44 58.5	64.2	57.9	56.5	61.9	62.0	60.17	31.194	.199	30.060
	61	50 Cassiopeæ, S. P.	. .	5	VII–III.	20 39 58.8	58.5	60.2	56.4	57.9	59.8	58.60	26.807	.834	30.07
	62	Nadir 14h. 5m.	. .	4	. .	269 59 62.1	60.3	58.9	56.5	59.9	64.0	60.28	29.972	.982	. .
	63	Lacaille 5910	7.2	5	III–VII.	156 34 61.0	60.2	58.4	56.6	57.9	60.7	59.13	34.109	.129	. .
	64	O. Arg. S. 13629	8.5	5	III–VII.	156 9 61.4	60.2	58.4	56.0	57.5	60.2	58.95	31.470	.484	. .
	65	O. Arg. S. 13647	8.0	1	V.	“ “ “	“	“	“	“	“	“	29.451	.462	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	30.010	− 2 50.7	+ 1 51.7	152 44 0.5	− 23 50 21.3	+ 40.3	N.	
2	. .	. .	. .	+ 43.3	1 53.2	153 2 36.4	24 8 57.2	38.0		
3	. .	. .	. .	− 1 15.3	1 46.2	151 30 31.5	22 36 52.3	32.8		
4	61.7	55.5	. .	+ 2 11.7	4 24.9	168 1 38.6	39 7 59.4	31.7		
5	. .	. .	. .	+ 3 1.6	2 30.3	159 5 33.3	− 30 11 54.1	27.1		
6	65.0	75.0	29.990	− 1 24.5	18.3	111 53 56.5	+ 16 59 42.7			
7	66.2	76.2	. .	+ 21.3	15.0	106 30 39.1	22 23 0.1			Very unsteady.
8	67.0	77.4	. .	1 34.4	+ 15 59.7	105 32 35.1	23 21 4.1			
9	70.7	74.1	. .	+ 21.4	− 55.9	44 44 24.1	84 9 15.2	+ 71.4		Very good.
10	. .	72.1	. .	− 12.0	1 12.5	37 28 35.6	88 34 56.4	− 69.1		
11	. .	. .	. .	+ 39.7	− 16.8	73 15 24.3	+ 55 38 14.9	+ 71.6		
12										
13	. .	. .	. .	2 17.5	+ 2 7.1	156 24 23.3	− 27 30 44.1	+ 90.9		
14	70.2	69.2	. .	1 36.0	− 2 27.0	20 39 9.6	+ 71 45 30.4	− 63.5		
15	. .	. .	. .	+ 1 56.8	+ 45.8	309 17 40.8	+ 78 11 20.1	+ 60.1		Middle reading at wire IV
16	. .	. .	. .	− 1 33.6	− 28 48.2	143 24 38.4	− 14 30 59.2			
17	. .	. .	. .	+ 1 10.0	− 42.9	52 35 29.8	+ 76 18 9.4	56.5		
18	. .	. .	. .	− 1 10.7	+ 42.9	307 24 31.0	76 18 10.3			
19	. .	. .	. .	− 1 30.8	+ 40.6	305 49 8.8	74 42 48.1	51.4		
20	. .	67.2	. .	+ 1 27.2	− 40.6	54 10 48.8	+ 74 42 50.4			
21	. .	. .	. .	− 1 27.1	+ 1 19.5	145 19 52.8	− 16 25 53.2			
22	. .	. .	. .	2 8.0	1 19.5	145 19 11.9				
23	. .	. .	. .	2 4.8	1 48.3	152 39 44.1	23 46 4.9	63.9		
24	. .	. .	. .	− 1 44.1	+ 1 48.3	152 40 4.8	− 23 46 25.6	63.8		
25	. .	. .	. .	+ 1 58.0	− 11.7	258 16 47.9	+ 27 10 27.1	47.9		
26	69.3	66.1	. .	+ 2 54.7	+ 11.7	101 43 7.7	27 10 31.5			
27	. .	. .	. .	− 13.9	+ 38.0	124 0 18.8	4 53 20.4	46.9		
28	. .	. .	. .	+ 15.1	− 38.0	235 59 38.6	+ 4 53 17.8			
29	. .	. .	. .	+ 55.2	+ 1 41.9	151 7 37.3	− 22 13 58.1	48.2		
30	. .	. .	. .	− 32.6	2 2.7	155 26 30.5	26 32 51.3	45.0		
31	. .	. .	. .	+ 2.6	1 37.1	149 56 40.2	21 3 1.0	42.7		
32	. .	. .	. .	− 5 12.1	1 36.8	149 51 25.2	20 57 46.0	41.4		
33	68.7	64.5	. .	16.7	1 45.9	152 1 30.6	23 7 51.4	38.1		Double *. Same R. A.
34	. .	. .	. .	20.3	1 45.9	152 1 27.0	23 7 47.8	38.1		
35	. .	. .	. .	9.6	1 5.4	139 10 57.2	10 17 18.0	31.7		
36	. .	. .	. .	1 9.7	1 50.9	153 5 41.7	24 12 2.5	31.5		
37	. .	. .	. .	1 4.2	2 16.2	157 36 12.1	28 42 32.9	29.3		
38	67.8	62.5	. .	− 1 50.5	1 34.2	149 4 42.0	− 20 11 2.8	26.0		Barometer and thermometer taken at 17h. 0m.
39										
40	71.5	80.4	30.046	+ 30.4	14.7	106 20 50.5	+ 22 32 48.7		D.	
41	. .	. .	. .	− 28.4	12.7	105 14 49.4	+ 23 23 7.9			Eye-piece not well arranged; wires scarcely visible.
42	73.0	81.9	. .	+ 53.4	13.2	105 46 13.2				
43	73.5	83.1	. .	− 38.5	1 18.9	145 25 45.0	− 16 32 5.8	24.8		Very steady.
44										
45	76.5	71.3	. .	− 4 22.6	+ 2 45.7	161 38 28.0	32 44 48.8	74.3		
46	. .	. .	. .	+ 2 38.2	− 30 49.5	146 21 49.7	17 28 10.5			
47	71.5	69.5	. .	− 3 34.7	+ 1 57.6	154 43 24.3	− 25 49 45.1	+ 57.7		
48	. .	. .	. .	− 53.3	− 1 39.6	29 12 30.6	+ 80 18 51.4	− 35.9		Recorded 28.744*r*.
49	71.2	69.5	. .	+ 6 42.5	− 50.8	227 45 54.4	− 3 20 26.4	+ 39.6		
50	. .	. .	. .	− 3 29.7	+ 2 14.5	157 33 44.9	− 28 40 5.7	+ 32.7		
51	. .	68.6	. .	+ 3 18.2	− 3 25.0	14 59 54.9	+ 66 6 15.7	− 20.2		
52	71.0	68.3	. .	− 58.7	− 52.9	46 38 11.3	+ 82 15 27.9	+ 13.8		The readings of the barometer and thermometers were taken at 17h. 22m.
53										
54	70.5	67.4	. .	2 43.7	+ 2 43.3	161 14 59.8	− 32 21 20.6	− 14.4		
55	. .	66.5	. .	− 2 5.1	− 41.4	53 37 16.2	+ 75 16 23.0	22.2		Recorded 26.026*r*.
56	70.0	66.4	. .	+ 1 45.2	− 26.5	244 46 21.6	13 40 0.8	28.7		
57	76.0	86.9	29.973	32.6	+ 17.5	111 20 52.5	17 32 46.7		N.	
58	78.0	88.7	. .	+ 1 20.1	14.4	106 11 36.5	22 42 2.7			
59	. .	. .	. .	− 2 9.0	12.5	105 13 4.9	23 24 49.4			
60	78.5	90.2	. .	− 38.4	+ 13.0	105 44 34.7				
61	78.0	77.8	. .	+ 1 38.3	− 2 25.1	20 39 11.8	+ 71 45 32.5	− 63.4		
62										
63	. .	. .	29.978	− 2 10.1	+ 2 6.8	156 34 55.8	− 27 41 16.6	+ 82.9		
64	. .	. .	29.980	− 47.1	2 4.6	156 11 16.4	27 17 37.2	81.3		
65	. .	. .	29.980	+ 16.2	+ 2 4.7	156 12 19.8	− 27 18 40.6	+ 81.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd	
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. June 17	1	Anon. 14h. 37m. 23s.	. .	1	V.	154 4 61.8	61.2	60.3	54.9	58.3	61.2	59.62	26.097	.112	. .
	2	α Libræ	. .	3	IV–VI.	144 19 60.5	60.2	57.5	54.5	57.9	60.5	58.52	28.062	.077	30.108
	3	B. A. C. 4982 . .	. .	3	1, 3, 5.	45 49 60.5	60.4	62.1	57.1	60.2	62.8	60.52	29.283	.299	. .
	4	Jupiter N. L, . .	. .	5	I–IX.	145 14 60.6	60.5	57.7	54.0	57.0	61.5	58.55	28.584	.596	. .
	5	Jupiter S. L. . .	. .	4	II–VIII.	" " "	"	"	"	"	"	"	27.252	.274	. .
	6	γ Ursæ Minoris . .	. .	5	III–VII.	56 34 60.5	59.6	61.5	58.0	60.2	66.5	61.05	29.901	.884	30.121
	7	B. A. C. 5145 . .	8.0	5	III–VII.	154 39 60.9	60.4	58.5	54.5	56.6	61.5	58.73	27.194	.215	. .
	8	O. Arg. S. 14839 .	7.8	1	V.	151 9 61.5	60.9	59.1	56.1	57.0	60.3	59.15	27.231	.248	. .
	9	B. A. C. 5228 . .	. .	1	V.	154 44 60.6	60.9	59.0	55.1	56.6	60.5	58.78	31.692	.695	. .
	10	B. A. C. 1211, S. P.	. .	2	V, 1.	29 14 61.7	61.5	62.7	61.0	61.1	63.8	61.97	31.633	.637	. .
	11	B. A. C. 5335 . .	. .	5	III–VII.	152 4 61.6	61.6	60.7	58.0	57.6	62.8	60.38	28.247	.267	. .
	12	Moon N. L. . . .	. .	5	I–IX.	148 54 60.9	59.0	58.5	55.5	54.8	58.5	57.87	28.564	.579	. .
	13	ψ Ophiuchi	. .	5	I–IX.	148 34 60.7	59.5	59.0	55.0	55.6	58.8	58.10	29.741	.753	30.141
	14	η Ursæ Minoris . .	. .	1	V.	52 49 60.1	60.6	62.1	59.2	58.3	64.5	60.80	29.627	.631	. .
	15	ζ Ophiuchi	. .	5	I–IX.	139 9 59.6	59.3	56.6	55.0	55.5	58.7	57.45	30.108	.128	. .
	16	Anon. 16h. 35m. 40s.	. .	1	VI.	149 19 60.5	60.0	58.9	56.2	56.0	59.0	58.43	33.326	.343	. .
	17	α Camelopardi, S. P. .	. .	4	IV–I.	15 4 61.8	60.9	62.1	59.1	57.3	60.0	60.20	33.094	.163	30.139
	18	24 Ophiuchi . .	. .	1	V.	151 49 62.7	63.0	61.6	59.0	58.6	62.8	61.28	34.333	.348	. .
	19	B. A. C. 5730 . .	. .	1	V.	152 54 60.7	59.4	60.2	57.4	55.4	61.2	59.05	31.174	.191	. .
	20	Nadir 17h. 5m. . .	. .	4	. .	269 59 61.6	60.7	59.0	58.1	58.0	63.5	60.15	30.034	.046	. .
	21	Venus	. .	5	I–IX.	106 4 65.4	74.9	69.0	70.1	67.3	68.8	69.25	34.485	.483	29.991
18	22	Sun S. L. . . .	. .	2	I, III.	105 44 57.7	66.8	59.1	61.7	59.8	61.2	61.05	33.611	.601	29.988
	23	Sun N. L. . . .	. .	2	VII, IX.	105 9 59.9	67.3	61.0	62.9	60.1	63.0	62.37	26.899	.893	. .
	24	Nadir 14h. 40m. . .	. .	4	. .	269 59 57.7	61.0	57.7	56.8	56.8	60.3	58.38	29.934	.944	. .
	25	Jupiter S. L. . .	. .	3	I, V, IX.	145 14 57.5	61.6	58.6	55.7	55.5	58.1	57.83	29.253	.279	30.169
	26	Jupiter N. L. . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	30.544	.554	. .
	27	Moon N. L. . . .	. .	3	I, III, V.	149 44 57.0	57.8	58.0	54.5	57.9	53.5	56.45	26.876	.881	30.160
	28	Moon S. L. . . .	. .	1	IX.	150 19 56.7	59.8	58.0	55.2	53.2	55.6	56.42	31.694	.728	. .
	29	Nadir 17h. 20m. .	. .	3	. .	269 59 56.3	61.5	57.6	58.5	55.9	58.5	58.05	29.971	.981	. .
20	30	Sun S. L. . . .	. .	4	I–IV.	105 39 60.0	66.7	61.6	62.7	60.5	63.1	62.43	26.338	.343	. .
	31	Sun N. L. . . .	. .	4	VI–IX.	105 9 57.5	64.0	58.5	60.0	57.0	59.9	59.48	29.064	.068	30.173
	32	Polaris, S. P., (Ref.)	. .	5	4–2.	322 29 59.4	57.3	59.0	53.5	54.8	56.6	56.78	29.404	.420	. .
	33	Polaris, S. P. . .	. .	5	. .	37 29 60.0	61.9	61.7	61.1	59.4	60.8	60.82	30.265	.347	30.153
	34	Nadir 14h. . . .	. .	6	. .	269 59 60.2	59.6	58.5	57.7	56.5	60.8	58.88*d*	29.978	.988	. .
	35	ι Cassiopeæ, S. P. .	. .	5	VII–III.	15 44 60.1	61.3	61.7	59.7	56.0	58.9	59.62	31.635	.657	30.162
	36	Lacaille 5977 . .	7.8	1	V.	155 54 60.4	60.4	59.3	58.0	54.5	58.2	58.47	24.484	.493	. .
	37	O. Arg. S. 13757 .	8.7	1	VII.	154 4 61.0	60.7	60.8	57.5	55.4	58.4	58.97	31.606	.617	. .
	38	Anon, 14h. 37m. 12s.	9.5	3	III, V, VII.	" " "	"	"	"	"	"	"	26.176	.197	. .
	39	56 Hydræ	5.5	1	VII.	154 19 61.9	62.2	61.2	58.3	56.3	60.3	60.03	24.588	.600	. .
	40	β Ursæ Minoris . .	. .	3	IV, IV½, V.	54 9 61.1	62.1	62.2	61.9	59.1	63.5	61.65	27.107	.116	. .
	41	β Ursæ Minoris, (Ref.)	. .	3	VI½, VII, VIII	305 49 62.9	62.7	61.6	58.0	57.7	60.1	60.50	32.762	.827	. .
	42	B. A. C. 4982 . .	. .	1	. .	45 49 63.2	65.1	66.5	65.0	61.4	64.6	64.30	29.402	.420	. .
	43	Jupiter S. L. . .	. .	3	I, V, IX.	145 14 62.9	63.2	61.1	59.2	57.6	61.4	60.90	32.960	.979	30.171
	44	Jupiter N. L. . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	34.242	.263	. .
	45	γ^2 Ursæ Minoris . .	. .	3	IV, IV½, V.	56 34 60.4	62.3	63.8	62.6	59.8	65.5	62.40	29.914	.916	. .
	46	γ^2 Ursæ Minoris, (Ref.)	. .	3	VII–IX.	303 24 61.7	62.6	62.6	59.2	57.9	59.5	60.58	29.989	.096	. .
	47	B. A. C. 5149 . .	. .	1	VII.	156 39 62.2	63.1	62.6	61.1	56.5	59.9	60.90	35.855	.868	. .
	48	Anon. 15h. 39m. 39s.	8.8	1	V.	149 39 62.3	62.0	61.8	60.6	56.2	59.0	60.32	28.791	.794	. .
	49	Lacaille 6582 . .	. .	1	V.	168 14 61.7	61.4	63.4	62.5	56.0	59.5	60.75	26.209	.226	30.176
	50	O. Arg. S. 15195 .	7.7	5	III–VII.	152 44 61.2	61.6	62.0	60.5	54.9	60.0	60.03	34.356	.374	. .
	51	B. A. C. 5364 . .	7.0	1	V.	155 24 61.6	61.9	61.9	60.0	55.8	59.2	60.07	31.015	.027	. .
	52	Anon. 16h. 10m. 26s.	9.2	1	V.	158 59 62.2	64.0	64.1	63.2	57.0	60.5	61.83	28.116	.132	. .
	53	Anon. 16h. 10m, 35s.	9.0	1	VII.	" " "	"	"	"	"	"	"	36.489	.506	. .
	54	α Scorpii, (Ref.) . .	. .	2	V, VI.	204 59 63.0	63.0	65.6	63.8	56.3	62.0	62.28	28.771	.773	. .
	55	α Scorpii	. .	1	IX.	154 59 62.4	63.7	62.8	61.6	57.1	61.6	61.53	31.370	.408	. .
	56	B. A. C. 6236 . .	7.7	1	V.	161 9 63.7	66.2	67.1	65.5	57.3	62.5	63.72	25.957	.967	30.094
	57	Anon. 18h. 22m, 22s.	9.0	5	III–VII.	" " "	"	"	"	"	"	"	23.866	.877	. .
	58	Anon. 18h. 30m. 39s.	8.7	1	V.	160 59 60.9	64.0	64.9	62.5	55.3	59.4	61.17	30.614	.618	. .
	59	Moon N. L. . . .	. .	5	III–VII.	147 14 60.7	64.0	63.1	62.5	55.5	59.6	60.90	27.626	.634	30.186
	60	Nadir 19h. 30m. .	. .	4	. .	269 59 61.3	63.8	63.5	63.9	57.9	61.0	61.91*d*	30.072	.023	. .
	61	Mercury, centre . .	. .	1	V.	110 4 61.5	66.0	60.7	60.9	59.2	61.0	61.55	34.010	.022	30.302
	62	Venus, centre . .	. .	5	III–VII.	105 39 61.8	67.5	62.0	62.2	63.0	63.0	63.25	28.069	.080	30.314
21	63	Sun N. L. . . .	. .	4	I–IV.	105 9 60.7	65.5	58.7	60.3	59.9	62.2	61.22	29.088	.093	30.314
	64	Sun S. L. . . .	. .	4	VI–IX.	105 39 62.4	68.0	61.8	63.0	64.0	64.9	64.02	26.347	.352	. .
	65	α Canis Majoris . .	. .	5	III–VII.	145 24 59.9	61.0	54.0	54.8	56.0	58.9	57.43	31.028	.043	30.310

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	- -	- -	29.986	+ 2 1.4	+ 1 53.9	154 8 54.9	— 25 15 15.7	+ 75.5	N.	Hazy; faint and uncertain.
2	77.2	75.9	29.988	59.9	+ 1 17.3	144 22 15.7	— 15 28 36.5	71.3		
3	- -	- -	29.991	21.7	— 54.0	45 49 28.2	+ 83 4 11.0	48.4		
4	- -	- -	29.997	43.9	+ 1 18.6	145 17 1.0	— 16 23 42.5			
5	- -	- -	29.997	1 25.3	+ 1 18.6	145 17 42.4				
6	- -	73.4	30.002	3.7	— 36.8	56 34 27.9	+ 72 19 11.3	43.5		Very steady.
7	- -	- -	30.006	1 27.4	+ 1 57.5	154 43 23.6	— 25 49 44.4	57.7		
8	- -	- -	30.009	+ 1 26.5	1 41.3	151 13 6.9	22 19 27.7	53.9		
9	- -	- -	30.011	— 52.8	+ 1 57.9	154 46 3.8	— 25 52 24.6	+ 52.7		
10	- -	- -	30.012	— 50.9	— 1 39.6	29 12 31.4	+ 80 18 52.1	— 35.6		
11	- -	- -	30.017	+ 54.8	+ 1 45.4	152 7 40.5	— 23 14 1.3	+ 46.1		
12	- -	- -	30.019	45.1	— 32 17.3	148 23 25.6	19 29 46.4			
13	- -	70.6	30.023	8.5	+ 1 31.6	148 36 38.2	— 19 42 59.0	38.2		
14	- -	- -	30.025	+ 12.3	— 42.6	52 49 30.5	+ 76 4 8.7	26.2		
15	- -	- -	30.025	— 3.2	+ 1 4.9	139 10 59.1	— 10 17 19.9	31.5		
16	- -	- -	30.030	1 43.8	+ 1 34.4	149 19 49.0	— 20 26 9.8	+ 30.2		
17	74.0	69.5	30.032	1 38.1	— 3 25.7	14 59 56.4	+ 66 6 17.1	— 19.9		
18	- -	- -	30.034	2 15.2	+ 1 44.6	151 49 30.6	— 22 55 51.4	+ 24.8		
19	- -	- -	30.038	36.1	1 49.6	152 56 12.5	— 24 2 33.3	+ 22.0		
20										
21	71.5	76.5	29.996	2 20.6	14.5	106 3 3.1	+ 22 50 36.1		D.	
22	72.0	77.7	- -	— 1 53.0	13.3	105 43 21.3	+ 23 26 2.4			
23	- -	- -	- -	+ 1 37.2	12.8	105 11 52.3				
24										
25	72.7	67.3	- -	+ 22.5	1 19.8	145 16 40.1	— 16 22 40.8			
26	- -	- -	- -	— 17.5	+ 1 19.7	145 16 0.0				
27	72.5	64.3	30.043	+ 1 39.1	— 49 12.7	148 57 22.8	— 20 19 50.7			Through clouds.
28	- -	- -	- -	— 52.8	— 49 26.7	149 29 36.9				Recorded 32.694r.
29										
30	- -	- -	30.023	+ 1 55.3	+ 13.2	105 42 10.9	+ 23 27 12.7		N.	
31	72.8	83.5	- -	29.9	12.7	105 10 42.0				
32	- -	- -	- -	+ 19.0	+ 1 12.6	322 31 28.3	88 34 52.4	— 68.9		
33	74.0	74.3	- -	— 10.2	— 1 12.6	37 28 38.0	88 34 58.8			
34										
35	73.0	69.2	- -	— 51.2	— 3 17.0	15 40 51.4	+ 66 47 12.2	— 58.7		Well defined.
36	- -	- -	- -	+ 2 53.3	+ 2 5.7	155 59 57.4	— 27 6 18.2	+ 80.0		
37	- -	- -	- -	— 49.9	1 55.4	154 6 4.4	25 12 25.2	78.1		
38	- -	- -	- -	+ 1 59.9	1 55.8	154 8 54.6	25 15 15.4	75.7		
39	- -	- -	- -	2 49.9	+ 1 57.2	154 24 47.1	— 25 31 7.9	74.9		
40	- -	- -	- -	+ 1 31.1	— 40.8	54 10 51.9	+ 74 42 47.3	50.3		
41	- -	- -	- -	— 1 27.9	+ 40.8	305 49 13.4	74 42 52.7			Rather doubtful.
42	- -	- -	- -	+ 18.9	— 54.9	45 49 28.3	+ 83 4 10.9	47.8		
43	72.0	66.2	- -	— 1 32.6	+ 1 19.9	145 14 48.2	— 16 20 48.8			
44	- -	- -	- -	— 2 12.9	+ 1 19.9	145 14 7.9				
45	- -	- -	- -	+ 3.4	— 37.5	56 34 28.3	+ 72 19 10.9	42.9		
46	- -	- -	- -	— 2.3	+ 37.5	303 25 35.7	+ 72 19 14.9			Good observation.
47	- -	- -	- -	— 3 3.1	2 10.6	156 39 8.4	— 27 45 29.2	57.9		
48	- -	- -	- -	+ 38.5	1 37.0	149 42 15.8	20 48 36.6	52.9		
49	70.2	64.0	- -	+ 1 59.0	4 27.3	168 21 27.0	39 27 47.8	53.1		
50	- -	- -	- -	— 2 16.3	1 50.0	152 44 33.7	23 50 54.5	46.5		
51	- -	- -	- -	— 31.5	2 3.9	155 26 32.4	26 32 53.2	45.1		
52	- -	- -	- -	+ 59.3	2 27.6	159 3 28.7	30 9 49.5	42.1		
53	- -	- -	- -	— 3 23.1	+ 2 27.1	158 59 5.8	30 5 26.6	42.1		
54	- -	- -	- -	+ 39.2	— 2 1.9	204 58 39.5	26 7 41.2	+ 37.1		
55	- -	- -	- -	— 43.4	+ 2 1.9	155 1 20.0	26 7 40.8			Somewhat blurred.
56	66.5	60.9	- -	+ 2 7.1	2 46.3	161 14 57.1	32 21 17.9	— 14.3		
57	- -	- -	- -	+ 3 12.6	2 46.5	161 16 2.8	32 22 23.6	17.2		
58	- -	- -	- -	— 18.6	+ 2 44.6	161 2 27.1	32 8 47.9	— 21.0		
59	66.0	59.6	- -	+ 1 14.9	— 32 28.1	146 43 47.7	— 17 50 8.5			
60										
61	73.0	85.7	29.963	— 2 7.2	+ 16.8	110 3 11.1	+ 18 50 28.1		Ha.	
62	75.5	85.1	- -	+ 59.0	14.1	105 41 16.3	23 12 22.9			
63	76.5	86.5	- -	27.3	12.7	105 10 41.2	+ 23 27 13.5			
64	- -	- -	- -	+ 1 53.1	13.2	105 42 10.3				
65	78.0	86.0	- -	— 33.8	+ 1 19.4	145 25 43.0	— 16 32 3.8	+ 23.8		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd	
						° ' "	"	"	"	"	"	"	r.	r.	in.
1864. June 21	1	α Canis Minoris	. .	1	V.	123 19 60.1	61.0	55.9	56.6	56.9	60.2	58.45	31.801	.805	30.310
	2	Nadir 14h. 35m.	. .	3	. .	269 59 60.3	60.2	57.9	57.1	57.6	61.0	59.02*d*	29.922	.932	. .
	3	Anon. 14h. 53m. 7s.	8.0	1	V.	84 59 60.4	61.9	61.0	60.8	59.4	65.0	61.42	37.443	.454	30.350
	4	Jupiter S. L.	. .	3	I, V, IX.	145 14 59.8	61.9	57.1	56.5	55.6	59.7	58.43	34.682	.694	. .
	5	Jupiter N. L.	. .	2	III, VII.	" " "	"	"	"	"	"	"	35.950	.963	. .
	6	5 Serpentis	6.0	5	III–VII.	126 34 61.7	63.0	59.0	58.2	57.5	61.6	60.17	27.901	.908	30.354
	7	O. Arg. S. 14264	8.5	5	III–VII.	150 24 61.2	62.4	61.0	60.0	56.9	59.1	60.10	35.485	.497	. .
	8	40 Libræ	6.0	1	V.	158 14 60.6	64.0	61.9	60.0	56.5	59.3	60.38	37.499	.507	. .
	9	η Libræ	7.0	5	III–VII.	144 4 61.0	62.8	59.3	59.0	57.5	60.1	59.95	26.833	.840	. .
	10	B. A. C. 5240	8.0	1	V.	158 19 60.9	64.1	61.6	60.9	56.3	59.8	60.60	30.678	.681	. .
	11	B. A. C. 5308	7.0	5	III–VII.	157 39 62.0	65.0	62.2	62.8	58.4	61.1	61.92	36.579	.588	30.360
	12	σ Scorpii	6.0	5	III–VII.	154 9 62.2	65.2	63.0	61.3	58.4	61.1	61.87	34.768	.774	. .
	13	α Scorpii	. .	3	V, VIII, IX.	154 59 60.7	63.0	60.2	60.2	56.3	61.0	60.23	31.370	.397	30.358
	14	Venus	. .	3	V, VII, IX.	105 34 62.0	70.1	64.6	66.5	65.1	67.0	65.88	29.917	.912	30.326
22	15	Sun S. L.	. .	2	I, III.	105 44 59.9	65.8	60.0	62.0	60.3	62.7	61.78	35.116	.124	30.310
	16	Sun N. L.	. .	1	VIII.	105 9 61.0	68.1	61.2	63.0	60.5	64.1	62.98	28.490	.487	. .
	17	α Canis Majoris	. .	5	I–IX.	145 24 63.1	66.9	61.0	62.0	58.9	63.3	62.53	31.239	.263	30.300
	18	Nadir 14h. 45m.	. .	3	. .	269 59 63.0	65.3	62.5	62.5	59.9	65.3	63.08	30.107	.122	. .
	19	Jupiter S. L.	. .	3	I, V, IX.	145 14 60.0	64.0	59.3	57.0	56.3	60.9	59.58	36.261	.287	. .
	20	Jupiter N. L.	. .	2	III, VII.	" " "	"	"	"	"	"	"	37.600	.608	30.168
	21	ι Draconis	. .	3	V, VII, IX.	69 29 61.7	63.2	64.3	62.9	61.2	66.7	63.33	35.277	.238	. .
	22	Anon. 15h. 45m. 27s.	. .	1	V.	150 29 62.0	65.0	63.7	62.0	58.5	61.5	62.12	38.061	.075	30.158
	23	B. A. C. 5487	. .	1	V.	157 49 58.0	62.4	59.8	58.4	54.4	56.7	58.28	29.774	.777	. .
	24	Anon. 16h. 34m. 5s.	. .	1	IX.	167 29 59.0	62.5	59.8	60.6	56.0	58.1	59.33	29.159	.215	30.156
	25	Anon. 16h. 56m. 17s.	. .	5	I–IX.	149 9 58.7	61.6	59.7	59.0	54.5	57.6	58.52	29.815	.828	. .
	26	Anon. 17h. 0m. 12s.	. .	2	VI, IX.	159 4 57.8	61.1	59.0	58.4	53.8	57.0	57.85	31.122	.154	. .
	27	Lacaille 7268	. .	1	VIII.	163 19 59.8	65.1	63.0	61.6	57.0	61.6	61.35	21.455	.486	30.150
	28	B. A. C. 6029	. .	1	V.	163 29 57.9	61.5	59.8	58.2	55.0	58.5	58.48	18.618	.622	. .
	29	B. A. C. 6043	. .	1	VII.	" " "	"	"	"	"	"	"	23.292	.318	. .
	30	35 Draconis	. .	3	VII–IX.	51 54 57.7	62.2	61.2	62.1	57.0	62.3	60.42	28.963	.841	. .
	31	15 Sagittarii	. .	3	II, IV, VI.	149 34 56.0	60.8	58.0	58.7	53.0	56.1	57.10	24.338	.357	30.140
	32	17 Sagittarii	. .	2	VII, IX.	" " "	"	"	"	"	"	"	45.034	.065	. .
	33	α Lyræ	. .	5	I–IX.	90 14 60.2	64.6	61.6	61.2	57.4	63.3	61.38	31.990	.981	. .
	34	Nadir 18h. 50m.	. .	5	. .	269 59 60.4	62.6	60.7	61.7	58.2	62.1	60.95	29.968	.978	. .
23	35	Sun N. L.	. .	2	I, III.	105 9 57.0	62.7	56.0	57.2	57.2	61.0	58.52	26.769	.757	. .
	36	Sun S. L.	. .	2	VII, IX.	105 44 55.2	60.9	55.1	56.0	57.2	59.4	57.30	33.374	.374	30.112
24	37	Sun S. L.	. .	4	I–IV.	105 44 60.1	66.9	61.0	60.8	62.4	65.3	62.75	31.261	.267	30.132
	38	Sun N. L.	. .	4	VI–IX.	105 14 61.8	67.1	58.0	61.3	59.5	66.5	62.38	34.114	.121	. .
	39	Nadir 18h. 19m.	. .	3	. .	269 59 62.2	62.1	61.2	58.6	60.1	65.0	61.53	30.086	.096	. .
	40	α Lyræ	. .	5	III–VII.	90 14 61.0	63.4	60.9	58.5	59.4	65.0	61.37	32.036	.043	. .
	41	Mercury	. .	1	IX.	108 34 59.9	66.0	59.9	59.8	61.7	65.7	62.17	25.884	.872	30.131
25	42	Sun N. L.	. .	2	I, III.	105 14 56.9	62.6	58.0	57.2	59.9	63.6	59.70	30.712	.699	. .
	43	Sun S. L.	. .	2	VII, IX.	105 44 55.8	62.3	57.0	54.8	59.6	61.8	58.55	27.805	.797	30.111
	44	Nadir 14h. 50m.	. .	4	. .	269 59 59.2	58.6	57.8	54.8	58.3	62.5	58.53	29.855	.891	. .
	45	Jupiter N. L.	. .	3	II, V, VIII.	145 9 61.1	60.2	58.1	54.5	57.0	62.1	58.83	32.260	.282	30.056
	46	Jupiter S. L.	. .	2	IV, VI.	" " "	"	"	"	"	"	"	30.981	.993	. .
	47	O. Arg. S. 14511	. .	1	VII.	155 24 62.0	61.3	61.3	63.3	60.0	62.4	61.72	39.149	.173	. .
	48	O. Arg. S. 14674	. .	1	V.	153 34 60.8	60.6	61.6	56.6	57.8	62.3	60.12	32.826	.831	. .
	49	α Serpentis, (Ref.)	. .	1	IX.	237 59 61.8	60.3	63.4	62.3	62.1	68.9	63.13	33.431	.449	30.076
	50	β¹ Scorpii, (Ref.)	. .	3	II, V, VIII.	211 39 61.0	60.4	63.0	58.4	59.1	65.7	61.27	26.454	.458	30.062
	51	η Ursæ Minoris	. .	3	IV, V, VI.	52 49 64.5	60.6	64.0	60.0	60.5	62.4	62.00	29.723	.714	30.065
	52	15 Ophiuchi	. .	5	I–IX.	151 49 59.1	56.4	56.0	51.4	53.2	58.0	55.68	34.414	.437	. .
	53	β Camelopardi, S. P.	. .	3	VII, VI, IV.	9 9 60.0	60.8	61.0	57.0	56.5	59.5	59.13	23.754	.779	. .
	54	B. A. C. 5782	. .	3	II, IV, VII.	168 9 60.5	58.7	59.7	56.4	54.5	58.5	58.05	31.094	.130	. .
	55	Anon. 17h. 15m. 3s.	. .	3	III, V, VII.	151 49 60.2	57.3	56.9	52.2	54.7	58.5	56.63	40.664	.671	. .
	56	Anon. 17h. 29m. 28s.	. .	4	II, IV, VI, IX	149 29 59.4	57.7	57.0	53.1	53.5	57.8	56.42	33.420	.440	30.060
	57	B. A. C. 6032	. .	4	I, III, VII, IX	160 9 60.3	57.8	60.1	55.1	54.2	59.8	57.88	33.138	.175	. .
	58	B. A. C. 6081	. .	5	I–IX.	149 14 61.0	58.9	58.8	55.0	54.3	59.6	57.93	36.559	.574	. .
	59	μ¹ Sagittarii	. .	5	I–IX.	149 59 58.8	57.4	58.6	55.7	54.6	58.3	57.23	34.890	.907	. .
	60	Anon. 18h. 15m. 40s.	. .	1	V.	167 24 60.8	58.6	59.0	56.2	55.4	58.3	58.05	24.153	.170	. .
	61	Anon. 18h. 18m. 28s.	. .	1	IX.	158 24 62.4	60.0	60.8	58.3	57.2	60.7	59.90	37.696	.727	30.060
	62	Nadir	. .	3	. .	269 59 62.3	60.3	60.1	57.3	58.9	64.0	60.48	30.036	.049	. .
	63	Anon. 19h. 12m. 51s.	. .	1	VII.	139 4 59.9	59.3	57.5	54.3	55.0	58.6	57.43	30.305	.323	30.054
27	64	Sun S. L.	. .	3	II–IV.	105 49 59.4	63.0	60.2	58.5	59.8	63.4	60.72	28.741	.735	. .
	65	Sun N. L.	. .	4	VI–IX.	105 19 59.8	62.9	60.4	58.4	60.1	63.6	60.87	31.542	.540	29.963

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	79.0	87.3	29.963	− 57.7	+ 36.0	123 19 36.7	+ 5 34 2.5	+ 42.6	Ha.	
2										
3	74.0	68.2	. .	3 54.7	− 5.0	84 56 1.7	+ 43 57 37.5	53.8		
4	. .	. .	. .	2 28.2	+ 1 20.1	145 13 50.3	− 16 19 51.2			
5	. .	. .	. .	− 3 8.0	1 20.1	145 13 10.5				
6	73.5	67.5	. .	+ 1 4.4	42.2	126 36 46.7	+ 2 16 52.5	57.5		
7	. .	. .	. .	− 2 53.4	1 39.7	150 23 46.4	− 21 30 7.2	58.9		
8	. .	. .	. .	− 3 56.4	2 21.2	158 13 25.1	29 19 45.9	58.2		
9	. .	. .	. .	+ 1 37.9	1 18.6	154 7 56.4	25 14 17.2	55.1		
10	. .	. .	. .	− 22.5	2 22.4	158 22 0.5	29 28 21.3	52.9		
11	72.5	66.1	. .	3 27.6	2 17.5	157 38 51.8	28 45 12.6	48.6		
12	. .	. .	. .	2 30.7	1 57.2	154 9 28.3	25 15 49.1	40.5		
13	72.0	65.3	. .	− 44.9	2 1.8	155 1 17.1	− 26 7 37.9	37.1		
14	73.0	78.9	30.024	+ 3.5	14.2	105 35 23.5	+ 23 18 15.7		D.	Very faint.
15	73.5	78.8	. .	− 2 39.8	13.4	105 42 35.3	+ 23 26 49.5			
16	. .	. .	. .	+ 48.2	12.9	105 11 4.0				
17	74.0	78.6	. .	− 38.8	1 20.4	145 25 44.1	− 16 32 4.9	23.6	N.	
18									D.	
19	. .	. .	. .	3 16.2	1 19.0	145 13 2.3	− 16 19 2.4			Very distinct.
20	74.0	71.4	. .	3 57.6	+ 1 19.0	145 12 20.9				
21	. .	. .	. .	2 43.4	− 21.1	69 26 58.8	+ 59 26 40.4	42.3		
22	74.0	70.5	30.000	− 4 13.0	+ 1 38.7	150 27 27.8	− 21 33 48.6	51.0		Recorded $\overset{r.}{33.061}$. Reobserved July 13.
23	. .	. .	29.990	+ 6.7	2 17.1	157 52 22.0	28 58 42.8	38.5		
24	73.5	69.5	. .	24.3	4 8.0	167 34 31.6	38 40 52.4	33.1		Very faint; observation uncertain.
25	. .	. .	. .	+ 5.1	1 34.1	149 11 37.5	20 17 58.3	21.3		
26	. .	. .	.984	− 36.7	2 26.1	159 6 47.2	30 13 8.0	20.6		
27	72.7	68.6	.978	+ 4 26.1	3 6.7	163 27 34.1	34 33 54.9	13.5		
28	. .	. .	.970	5 55.6	3 9.1	163 39 3.1	34 45 23.9	1.0		
29	. .	68.0	.969	3 28.4	+ 3 8.7	163 36 35.5	− 34 42 56.3	+ 0.2		
30	. .	68.1	.964	35.2	− 44.2	51 54 51.4	+ 76 58 47.8	− 6.2		
31	72.0	68.0	.962	+ 2 55.6	+ 1 36.0	149 39 28.7	− 20 45 49.5	10.1		
32	. .	. .	.961	− 7 53.3	1 35.3	149 28 39.1	− 20 34 59.9	10.8		
33	. .	67.6	.954	− 1 3.5	0.2	90 13 58.0	+ 38 39 41.2	19.0		
34										
35	. .	. .	30.000	+ 1 41.6	12.5	105 11 52.6	23 26 0.6			
36	78.0	91.3	. .	− 1 45.7	12.9	105 43 24.5				
37	80.5	94.0	. .	39.7	12.9	105 44 35.9	23 24 48.4		Ha.	
38	. .	. .	. .	2 9.1	12.4	105 13 5.6				
39										
40	. .	. .	30.047	− 1 2.5	0.2	90 13 59.0	38 39 40.2	− 19.5		
41	84.0	94.1	29.986	+ 2 8.9	15.3	108 37 26.4	20 16 12.8		D.	
42	. .	. .	. .	− 22.4	12.3	105 14 49.6	+ 23 23 4.4			Tremulous.
43	86.3	95.6	. .	+ 1 8.6	12.9	105 46 20.0				Tremulous.
44										
45	84.0	86.0	. .	− 1 11.9	1 16.4	145 10 3.3	− 16 16 44.3			
46	. .	. .	. .	31.5	1 16.4	145 10 43.7				
47	. .	. .	. .	4 47.9	1 57.9	155 22 11.7	26 28 32.5	+ 63.2		
48	. .	. .	. .	1 29.2	+ 1 49.1	153 35 20.0	− 24 41 40.8	58.4		A brighter star preceding 18 or 20s. and north 5r.238, giving observed dec. = −24° 38′ 56″.4.
49	84.0	84.0	. .	− 1 48.5	− 34.1	237 57 40.5	+ 6 51 19.7	47.5		
50	84.0	82.5	. .	+ 1 50.5	1 28.4	211 40 23.3	− 19 25 57.4	45.7		
51	84.0	82.2	. .	+ 8.5	− 41.5	52 49 29.0	+ 76 4 10.2	23.6		
52	. .	82.0	. .	− 2 19.5	+ 1 41.8	151 49 17.9	− 22 55 38.7	+ 30.0		
53	. .	. .	. .	+ 3 14.5	− 5 23.0	9 7 50.6	+ 60 14 11.4	− 15.4		
54	. .	82.0	. .	− 34.9	+ 4 14.3	168 13 37.4	− 39 19 58.2	+ 20.4		
55	. .	. .	. .	5 34.8	1 41.5	151 46 3.3	22 52 24.1	13.3		Recorded 30r. with note "Perhaps 40r." Reobserved July 16.
56	83.7	82.0	. .	1 48.2	1 32.6	149 29 40.8	20 36 1.6	6.7		
57	. .	. .	. .	1 39.9	2 30.4	160 10 48.3	31 17 9.1	+ 1.0		
58	. .	81.6	. .	3 26.4	1 31.7	149 13 3.2	20 19 24.0	− 3.4		
59	. .	. .	. .	− 2 34.2	1 34.6	149 58 57.6	21 5 18.4	9.5		
60	. .	. .	. .	+ 3 2.2	4 1.2	167 32 1.4	38 38 22.2	13.8		
61	83.5	80.8	. .	− 4 2.6	2 17.3	158 23 14.6	29 29 35.4	15.1		
62										
63	62.7	79.5	. .	− 10.6	1 3.4	139 5 50.2	− 10 12 11.0	− 37.7		
64	. .	. .	30.004	+ 39.7	12.9	105 50 53.3	+ 23 18 30.0		N.	
65	87.0	93.0	. .	− 48.1	+ 12.4	105 19 25.1				

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. June 27	1	Nadir 17h. 30m.	. .	3	. .	269 59 60.2	59.6	60.3	59.3	55.3	60.2	59.15	29.967	.977	. .
	2	Anon. 18h. 33m. 14s.	. .	1	V.	160 29 59.9	61.9	64.0	61.0	53.8	57.7	59.72	35.947	.956	. .
	3	Anon. 18h. 34m. 33s.	. .	1	IX.	" " "	"	"	"	"	"	"	17.266	.313	30.164
	4	Victoria	. .	5	I-IX.	137 54 58.9	63.4	61.1	61.3	54.5	57.5	59.45	31.979	.994	30.164
	5	Mercury, centre	. .	5	III-VII.	107 34 60.5	66.0	63.0	63.8	56.0	58.0	61.22	33.342	.354	30.304
	6	Venus, centre	. .	5	III-VII.	105 14 60.8	68.0	63.9	66.0	58.9	61.1	63.12	31.711	.711	30.306
28	7	Sun N. L.	. .	4	I-IV.	105 19 58.5	65.6	62.0	63.0	56.8	58.1	60.67	26.146	.150	. .
	8	Sun S. L.	. .	4	VI-IX.	105 54 59.4	67.3	62.4	64.8	58.9	58.8	61.93	32.871	.870	. .
	9	α Canis Majoris	. .	5	III-VII.	145 24 59.9	64.3	61.0	61.0	55.0	56.5	59.62	31.184	.203	30.296
	10	α Canis Minoris	. .	2	III-V.	123 19 59.9	63.8	60.2	61.6	54.8	57.2	59.58	31.864	.869	30.288
	11	Nadir 16h. 5m.	. .	5	. .	269 59 60.2	62.9	61.5	62.5	56.0	59.2	60.38	29.957	.967	. .
	12	Mercury	. .	5	I-IX.	107 14 60.2	67.6	64.0	62.8	60.1	60.0	62.45	33.920	.918	30.303
29	13	Sun S. L.	. .	1	III.	105 54 60.0	67.5	62.4	63.7	60.2	61.1	62.48	26.525	.523	. .
	14	Sun N. L.	. .	1	IX.	105 24 59.7	68.3	63.1	63.2	58.9	61.5	62.45	29.401	.397	30.280
	15	Nadir 16h. 20m.	. .	4	. .	269 59 58.0	63.4	60.0	59.9	57.5	59.0	59.63	29.912	.922	. .
	16	α Camelopardi, S. P.	. .	5	VII-III.	14 59 58.0	64.2	63.4	62.2	56.7	56.0	60.08	23.495	.520	30.216
	17	O. Arg. S. 16710	. .	1	V.	159 14 59.3	64.3	63.5	62.5	56.8	57.5	60.65	30.049	.063	30.213
	18	O. Arg. S. 17016	. .	3	III, V, VII.	155 44 60.1	63.3	62.6	60.7	56.7	57.9	60.22	34.602	.613	. .
	19	B. A. C. 6017	. .	3	III, V, VII.	159 19 60.1	65.8	65.0	63.3	58.0	59.0	61.87	22.643	.651	. .
	20	α Lyræ	. .	5	I-IX.	90 14 59.0	66.7	62.5	63.6	57.8	61.2	61.80	32.057	.051	30.215
	21	Victoria	. .	1	V.	137 39 58.6	66.2	61.4	64.0	57.8	59.8	61.30	26.782	.786	30.208
30	22	Mercury, centre	. .	5	III-VII.	106 34 58.5	64.5	60.9	60.0	59.4	60.0	60.55	30.011	.020	29.994
	23	Venus, centre	. .	1	V.	105 14 60.0	65.3	59.7	60.8	60.6	62.1	61.42	33.620	.624	29.990
July 2	24	Sun S. L.	. .	2	I, III.	106 9 56.6	58.1	56.6	53.7	55.0	59.4	56.57	31.673	.657	. .
	25	Sun N. L.	. .	2	VII, IX.	105 39 59.5	64.8	59.0	56.9	62.1	63.7	61.00	34.520	.519	29.875
	26	Nadir 9h.	. .	3	. .	269 59 59.0	57.2	55.2	50.6	55.9	60.2	56.36	29.760	.770	. .
	27	O. Arg. S. 15566	7.0	5	I-IX.	151 39 58.4	60.0	57.8	54.0	54.0	58.0	57.03	30.545	.562	29.885
	28	B. A. C. 5571	7.0	5	I-IX.	153 4 58.5	57.8	57.4	54.0	54.4	57.6	56.62	31.928	.947	. .
	29	Weisse XVI, 854	9.0	4	I, III, VII, IX.	134 24 59.4	62.2	58.4	54.6	56.5	59.9	58.50	27.900	.909	29.889
	30	B. A. C. 5730	. .	3	III, V, VII.	152 54 62.5	62.3	61.1	58.7	56.6	61.0	60.37	31.077	.096	. .
	31	Anon. 17h. 5m. 9s.	. .	1	V.	168 29 62.2	63.1	61.9	59.4	56.9	60.0	60.58	38.765	.768	. .
	32	Anon. 17h. 16m. 14s.	. .	1	V.	163 19 63.7	65.0	63.6	59.8	59.4	63.4	62.48	36.663	.666	. .
	33	Lacaille 7268	. .	1	IX.	" " "	"	"	"	"	"	"	21.332	.381	. .
	34	B. A. C. 1706, S. P.	. .	3	VI-IV.	23 49 62.5	66.1	65.2	63.2	60.9	63.8	63.62	25.557	.574	. .
	35	O. Arg. S. 17016	. .	3	III-VII.	155 44 61.3	63.2	60.4	57.0	55.6	60.1	59.60	34.418	.435	29.879
	36	B. A. C. 6016	. .	1	IX.	160 29 61.4	63.0	62.9	57.9	55.9	60.7	60.30	29.636	.670	. .
	37	O. Arg. S. 17379	. .	1	V.	155 29 61.6	63.0	59.1	57.6	55.2	59.7	59.37	33.373	.387	. .
	38	35 Draconis	. .	3	V-VII.	51 54 63.0	66.8	65.9	63.6	61.6	66.9	64.63	29.088	.076	29.879
	39	α Lyræ	. .	5	I-IX.	90 14 63.6	66.6	63.9	61.1	60.6	65.9	63.62	32.190	.187	. .
	40	Anon. 18h. 47m. 28s.	. .	3	III-VII.	168 29 64.0	65.7	65.2	63.3	59.1	62.5	63.30	30.615	.627	. .
	41	Lacaille 7932	. .	3	III-VII.	" " "	"	"	"	"	"	"	26.720	.731	. .
	42	Victoria	. .	1	V.	137 24 64.3	67.0	63.1	60.4	59.3	62.5	62.77	30.390	.403	. .
	43	Eunomia	. .	1	IX.	152 19 65.4	67.4	66.1	63.8	61.5	65.0	64.87	27.053	.088	29.584
	44	Nadir 20h.	. .	6	. .	269 59 64.7	67.8	65.0	64.4	61.7	66.2	64.97	30.164	.177	. .
4	45	α Scorpii	. .	5	III-VII.	154 59 60.6	61.1	59.9	58.1	53.0	57.4	58.35	31.185	.206	30.042
	46	Juno	9.8	1	V.	133 4 60.6	61.9	60.5	59.4	54.4	60.3	59.52	32.960	.970	. .
	47	O. Arg. S. 16235	7.8	1	V.	149 14 61.0	60.5	62.0	59.8	53.5	56.5	58.89	28.769	.772	. .
	48	Victoria	. .	1	IX.	137 14 60.6	64.7	61.5	61.2	55.3	57.9	60.20	30.880	.893	30.046
	49	Nadir 19h. 30m.	. .	3	. .	269 59 62.2	64.0	63.8	64.7	57.2	61.6	62.25	30.070	.082	. .
	50	Eunomia	. .	1	IX.	152 14 63.1	66.2	66.1	65.5	57.4	60.8	63.18	25.191	.229	30.047
	51	Mercury	. .	5	III-VII.	105 34 63.4	69.1	65.1	65.7	62.7	64.1	65.02	29.978	.986	30.161
5	52	Sun N. L.	. .	4	I-IV.	105 54 60.2	67.0	61.5	61.6	60.7	60.8	61.97	32.840	.830	30.160
	53	Sun S. L.	. .	4	VI-IX.	106 24 60.8	66.4	61.5	60.7	60.1	59.8	61.55	29.827	.825	. .
	54	Nadir 8h. 0m.	. .	3	. .	269 59 60.1	59.7	58.4	56.7	56.3	59.8	58.50	29.891	.901	. .
	55	Weisse XIV, 1149	. .	1	V.	140 9 61.6	65.1	61.9	59.5	58.0	59.0	60.85	32.522	.529	30.121
	56	Anon. 15h. 25m. 0s.	. .	2	I, VII.	137 59 61.3	65.0	61.5	58.2	58.3	59.7	60.67	30.053	.072	. .
	57	Nadir 15h. 45m.	. .	3	. .	269 59 60.9	63.7	62.2	59.6	59.2	62.0	61.27	29.992	.002	. .
	58	O. Arg. S. 15388	. .	1	V.	158 44 58.8	63.1	62.5	58.9	55.8	56.3	59.23	33.838	.843	. .
	59	B. A. C. 5476	. .	5	I-IX.	158 29 58.0	62.1	61.6	58.0	55.0	55.6	58.38	34.220	.251	30.132
	60	Anon. 16h. 35m. 41s.	. .	5	I-IX.	149 14 57.6	60.6	60.8	57.2	54.1	54.7	57.50	23.644	.656	. .
	61	Weisse XVI, 845	. .	5	I-IX.	137 29 60.8	65.0	61.8	58.0	58.1	58.2	60.32	29.130	.150	30.130
	62	Anon. 16h. 56m. 18s.	. .	1	IX.	157 34 61.3	64.6	64.1	60.0	58.4	58.7	61.18	30.742	.771	. .
	63	α Herculis, (Ref.)	. .	2	V, VII.	245 39 59.2	62.5	62.9	61.1	58.5	62.4	61.10	30.412	.426	. .
	64	B. A. C. 5892	. .	5	I-IX.	160 9 58.9	62.3	63.4	58.7	55.1	56.7	59.18	35.670	.688	30.127
	65	B. A. C. 5946	. .	3	III-VII.	156 49 60.4	63.6	62.5	59.0	57.6	58.2	60.22	31.839	.849	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.961	− 1 32.4	+ 2 33.2	160 6 3.0	− 31 12 23.8	+ 5.2	D.	
2	. .	70.6	. .	+ 1 14.1	1 49.7	153 3 5.4	24 9 26.2	+ 1.4		
3	. .	. .	. .	+ 2 45.6	4 4.9	167 26 51.3	38 33 12.1	− 0.8		
4	75.0	69.8	. .	− 3 50.4	1 56.4	154 23 4.6	− 25 29 25.4	15.5		
5	. .	. .	. .	− 1 6.1	0.2	90 13 54.6	+ 38 39 44.6	23.0		
6	. .	. .	. .	+ 14.9	2 24.9	158 57 41.6	− 30 4 2.4	− 30.9		
7	74.0	68.0	. .	− 13.1	1 0.7	137 10 48.3	8 17 9.1			
8										
9	73.0	66.8	. .	+ 30.1	1 47.0	152 17 17.2	− 23 23 38.0			
10	. .	. .	29.959	+ 1 9.9	13.7	106 31 22.4	+ 22 38 1.5		N.	
11	77.0	89.5	. .	− 21.8	13.2	105 59 53.1				
12										
13									D.	This reading not used.
14	. .	. .	29.969	+ 2 8.6	1 53.1	154 13 57.8	− 25 20 18.6	+ 59.6	N.	
15	80.5	79.4	. .	+ 1 39.2	1 45.6	152 38 24.2	23 44 45.0	58.1		
16	. .	. .	. .	− 2 11.8	1 46.2	152 44 34.9	23 50 55.7	46.7		
17	. .	. .	. .	+ 2.8	2 20.5	158 47 24.3	29 53 45.1	46.9		
18	. .	. .	. .	+ 2 25.4	1 44.4	152 19 10.0	23 25 30.8	43.2		
19	. .	. .	. .	− 10.8	1 43.2	152 1 33.2	23 7 54.0	38.4		
20	80.0	77.9	. .	15.4	1 43.2	152 1 28.6	23 7 49.4	38.4		
21	. .	. .	. .	37.1	1 57.5	155 1 19.8	26 7 40.6	37.5		
22	. .	. .	. .	1 4.0	1 48.0	153 5 44.0	24 12 4.8	31.9		
23	. .	. .	. .	2 12.0	+ 51.6	133 8 40.0	− 4 15 0.8			Uncertain by 2″ or 3″.
24	79.5	77.9	. .	− 1 4.0	− 52.0	46 38 4.9	+ 82 15 34.3	+ 8.1		
25										
26	. .	. .	. .	+ 1 34.3	+ 2 32.5	160 19 6.0	− 31 25 26.8	− 1.8		
27	78.5	76.5	. .	− 1 47.9	− 1 0.6	42 17 13.8	+ 86 36 25.4	17.6		
28	. .	. .	. .	− 1 7.3	+ 0.2	90 13 54.9	+ 38 39 44.3	− 23.3		
29	78.0	76.2	. .	+ 16.1	59.4	137 6 16.2	− 8 12 37.0			
30	. .	76.1	. .	− 1 33.6	1 44.5	152 15 12.1	− 23 21 32.9			
31	81.0	92.3	29.961	+ 1 25.1	12.8	105 16 42.2	+ 23 36 57.0		D.	Good.
32	82.2	91.6	. .	1 8.7	15 59.5	106 22 10.4	22 31 28.8			Cloudy.
33	. .	. .	.953	+ 34.9	12.8	105 10 49.9	23 42 49.3		N.	
34	85.0	91.5	. .	− 1 57.1	13.5	106 13 16.9	+ 22 24 38.3			
35	. .	. .	. .	− 28.9	13.9	106 44 45.0				
36										
37	82.2	78.8	. .	+ 2 26.3	1 44.8	152 19 9.8	− 23 25 30.6	+ 43.2		
38	. .	. .	. .	− 21.2	1 42.1	151 41 20.3	22 47 41,1	39,5		
39	. .	. .	. .	38.4	1 57.9	155 1 19.1	26 7 39.9	37.6		Through flying clouds.
40	. .	. .	. .	1 10.4	1 41.5	151 30 30.9	22 36 51.7	32.9		
41	. .	. .	. .	1 45.4	1 33.0	149 19 48.0	20 26 8.8	+ 30.2		
42	79.0	74.8	. .	9.5	2 30.4	159 52 21.9	− 30 58 42.7	+ 17.8		
43	. .	. .	. .	− 1 5.8	0.2	90 13 54.0	+ 38 39 45.2	23.8		
44	. .	. .	. .	+ 1 36.4	2 12.3	157 18 47.6	− 28 25 8.4	24.1		
45	. .	. .	. .	+ 1 15.2	1 43.5	151 47 57.8	22 54 18.6	− 27.4		
46	78.5	74.2	. .	− 3 8.2	59.7	136 57 50.8	− 8 4 11.6		Ha.	
47										
48	82.0	88.5	29.943	+ 2 12.1	13.0	105 7 28.0	+ 23 46 11.2		D.	Hazy; faint.
49	. .	. .	. .	1 46.7	14.1	106 52 3.0	+ 22 17 19.7			
50	81.5	90.0	. .	19.1	13.6	106 20 36.0				
51										Image very faint and unsteady.
52	79.2	76.2	. .	+ 23.2	1 49.3	153 7 13.2	− 24 13 34.0	+ 37.3		Whole number rev. assumed.
53	. .	75.6	. .	− 2 21.0	1 51.2	153 29 30.6	24 35 51.4	27.8		
54	. .	. .	. .	+ 28.1	52.0	133 1 21.1	4 7 41.9	20.2		
55	. .	. .	. .	− 6 20.8	51.8	132 54 32.0	4 0 52.8	19.0		
56	. .	. .	. .	43.6	4 19.2	168 13 37.3	39 19 58.1	21.7		
57	79.0	75.0	. .	1 12.8	2 32.6	160 6 21.1	31 12 41.9	16.8		
58	. .	. .	. .	2 59.8	2 33.1	160 9 34.4	31 15 55.2	12.5		
59	. .	. .	. .	− 2 39.0	2 12.1	157 14 33.7	28 20 54.5	7.9		
60	78.2	74.3	. .	+ 1 32.7	3 3.6	163 19 35.4	34 25 56.2	+ 1.2		
61	. .	. .	. .	− 3 28.8	1 43.4	151 43 12.8	22 49 33.6	− 4.9		
62	78.0	73.9	. .	− 2 35.0	+ 1 36.4	149 58 58.5	− 21 5 19.3	− 9.6		
63	. .	. .	. .	+ 2 17.5	− 1 42.2	28 35 33.6	+ 79 41 54.4	+ 19.6		
64	77.7	73.5	. .	− 50.3	+ 0.2	90 13 53.3	+ 38 39 45.9	− 24.1		
65										

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
July 11	1	η Ursæ Minoris		3	III–V.	52 49 59.9	59.4	62.9	60.0	56.9	63.5	60.43	29.841	.821	29.900
	2	23 Sagittarii	7.0	5	I–IX.	152 14 59.8	59.2	61.5	57.1	54.2	58.5	58.38	35.612	.627	. .
	3	B. A. C. 6310	8.3	5	III–VII.	159 49 61.1	59.8	63.2	59.0	54.2	58.3	59.27	30.125	.146	29.887
	4	α Lyræ	. .	5	I–IX.	90 14 61.2	61.9	62.9	58.5	57.6	63.5	60.93	32.113	.109	. .
	5	B. A. C. 6382	. .	1	V.	157 19 61.2	59.8	61.8	58.2	54.7	58.3	59.00	36.410	.423	. .
	6	Victoria	. .	5	III–VII.	136 44 61.5	62.5	61.7	58.5	57.0	61.2	60.40	28.009	.022	29.884
	7	Nadir 19h. 20m.	. .	3	. .	269 59 60.8	60.4	61.4	58.7	56.8	61.6	59.95	29.934	.943	. .
	8	Eunomia	. .	5	III–VII.	151 59 61.6	61.1	63.3	58.7	56.2	60.3	60.20	25.453	.467	. .
12	9	Sun S. L.	. .	2	VII, IX.	107 14 60.9	65.4	62.3	58.2	60.6	63.4	61.80	28.146	.158	29.978
	10	Nadir 17h.	. .	3	. .	269 59 60.2	61.1	61.1	57.3	59.1	61.9	60.12	29.919	.927	. .
13	11	Sun N. L.	. .	2	I, III.	106 54 60.9	66.1	63.4	59.9	58.8	61.3	61.73	33.462	.450	. .
	12	Sun S. L.	. .	2	VII, IX.	107 24 59.3	64.3	62.1	57.3	57.0	59.7	59.95	30.443	.450	30.147
	13	Moon N. L.	.	5	I–IX.	145 29 60.8	61.4	60.0	55.4	56.2	59.9	58.95	35.620	.633	30.144
	14	Nadir 15h. 40m.	. .	3	. .	269 59 60.9	61.7	61.4	58.1	58.3	62.1	60.42	29.939	.948	. .
	15	Anon. 15h. 45m. 26s.	. .	5	I–IX.	150 29 62.2	63.5	64.5	59.3	58.2	60.3	61.33	37.984	38.005	30.160
	16	O. Arg. S. 15112	. .	4	III–IX.	152 44 63.9	64.8	65.8	62.0	58.5	62.3	62.88	30.580	.594	. .
	17	B. A. C. 5394	. .	5	I–IX.	152 54 59.4	60.2	60.8	57.4	59.0	58.6	59.23	27.673	.687	30.156
	18	B. A. C. 5464, south *	. .	2	I, VII.	158 14 59.8	61.9	62.0	58.0	54.6	58.1	59.07	31.038	.070	. .
	19	B. A. C. 5464, north *	. .	2	V, IX.	“ “ “	“	“	“	“	“	“	31.296	.326	. .
	20	B. A. C. 5556	. .	5	I–IX.	158 29 59.7	62.3	62.2	59.0	55.6	58.4	59.53	29.185	.216	. .
	21	O. Arg. S. 16045	. .	5	I–IX.	147 59 60.5	60.4	60.2	56.9	53.8	57.9	58.28	30.808	.821	30.162
	22	ε Ursæ Minoris	. .	1	V.	46 39 61.6	64.6	65.7	63.1	59.9	63.3	63.03	32.020	.033	. .
	23	α Herculis	. .	5	I–IX.	114 19 62.0	64.9	63.0	61.5	58.1	63.2	62.12	29.613	.610	30.148
	24	B. A. C. 5892	. .	5	I–IX.	160 9 60.5	60.5	62.9	58.8	53.8	58.3	59.13	35.560	.581	. .
	25	α Canis Majoris	. .	5	I–IX.	145 24 62.7	65.2	62.4	60.1	57.4	60.6	61.40	31.223	.248	30.194
14	26	Sun S. L.	. .	2	II, IV.	107 34 62.9	67.9	65.0	61.3	59.9	63.3	63.38	32.233	.230	. .
	27	Sun N. L.	. .	1	VIII.	106 59 60.9	66.3	61.9	59.7	60.4	61.1	61.72	25.391	.411	30.184
	28	Moon N. L.	. .	5	III–VII.	147 54 62.0	61.2	62.0	57.3	55.2	57.9	59.27	26.451	.465	30.144
	29	δ Ophiuchi	. .	5	III–VII.	132 14 61.3	62.1	60.0	57.0	55.6	59.0	59.18	33.196	.213	30.148
	30	η Draconis, (Ref.)	. .	3	III–V.	292 54 62.6	62.8	63.5	57.6	59.1	61.8	61.23	28.903	.922	. .
	31	η Draconis	. .	4	VI–IX.	67 4 61.8	63.0	65.5	61.9	60.2	64.7	62.85	31.128	.100	. .
	32	Nadir 16h. 40m.	. .	3	. .	269 59 63.0	62.4	61.8	60.2	58.9	62.7	61.50	29.982	.992	. .
	33	22 Ophiuchi	7.0	5	III–VII.	152 9 63.0	63.6	64.0	60.0	57.8	61.0	61.57	31.855	.863	30.156
	34	α Herculis, (Ref.)	. .	4	I–IV.	245 39 64.0	63.1	66.0	63.0	60.4	66.1	63.77	30.432	.451	30.154
	35	α Herculis	. .	4	VI–IX.	114 24 63.9	66.1	65.0	62.1	60.0	62.9	63.33	39.248	.259	. .
	36	O. Arg. S. 16844	8.0	1	V.	148 14 62.4	63.0	63.0	59.1	56.4	58.1	60.33	32.458	.469	. .
	37	B. A. C. 5946	7.5	3	V, VIII, IX.	156 49 62.2	63.9	62.9	60.6	57.6	59.5	61.12	31.848	.867	. .
	38	Anon. 17h. 33m. 37s.	8.0	1	V.	163 9 62.0	62.9	62.7	60.9	57.2	60.0	60.95	38.838	.843	. .
	39	Anon. 17h. 34m. 49s.	8.0	1	V.	“ “ “	“	“	“	“	“	“	23.255	.272	30.152
15	40	Moon N. L.	. .	5	I–IX.	149 24 59.8	59.0	60.0	56.8	52.9	55.3	57.30	29.474	.493	30.094
	41	α Canis Majoris	. .	5	I–IX.	145 24 59.9	63.0	60.8	59.0	55.4	56.9	59.17	31.162	.186	30.103
16	42	Sun S. L.	. .	4	I–IV.	107 49 61.4	66.8	63.9	60.6	59.1	60.7	62.08	23.790	.776	. .
	43	Sun N. L.	. .	4	VI–IX.	107 19 61.2	65.5	63.1	60.3	59.2	59.2	61.42	26.628	.629	30.084
	44	Anon. 15h. 44m. 58s.	. .	5	I–IX.	154 24 61.8	63.6	61.6	58.6	57.1	60.7	60.57	32.165	.194	30.063
	45	Nadir 16h. 20m.	. .	3	. .	269 59 60.4	63.1	61.0	59.1	58.5	62.2	60.72	29.964	.974	. .
	46	Lacaille 6987	. .	5	I–IX.	162 39 61.2	63.5	62.1	61.0	56.4	59.4	60.60	35.586	.607	30.080
	47	Weisse XVII, 46	. .	1	V.	133 19 60.7	63.8	61.6	58.9	57.9	61.0	60.65	28.189	.206	30.079
	48	Anon. 17h. 15m. 4s.	. .	5	I–IX.	151 44 60.5	63.6	62.1	59.1	57.1	59.2	60.27	31.190	.218	. .
	49	β Draconis, (Ref.)	. .	2	II, IV.	283 29 61.7	63.4	62.5	60.1	57.7	62.4	61.30	28.834	.861	. .
	50	Moon N. L.	. .	2	I, III.	149 39 60.6	63.1	61.7	59.3	55.9	57.9	59.75	34.824	.866	. .
	51	Moon S. L.	. .	2	VI, VIII.	150 9 58.7	60.8	59.8	58.0	54.6	56.5	58.07	29.801	.793	30.079
	52	B. A. C. 6161	. .	2	IV, V.	152 34 59.3	62.1	61.6	58.7	54.7	58.2	59.10	29.446	.458	. .
	53	O. Arg. S. 17975	. .	1	VIII.	“ “ “	“	“	“	“	“	“	39.983	.007	.
	54	α Lyræ	. .	5	I–IX.	90 14 58.8	63.0	61.1	60.0	56.7	61.0	60.10	32.113	.109	30.
	55	Victoria	. .	1	V.	136 34 59.4	64.1	60.2	59.5	55.0	59.4	59.60	34.543	.549	.
	56	Eunomia	. .	1	V.	151 49 59.8	62.3	61.8	59.6	54.5	57.9	59.32	29.769	.772	3
	57	Nadir 19h. 35m.	. .	4	. .	269 59 60.7	64.2	62.5	61.2	58.2	61.0	61.30	29.966	.976	
18	58	Sun N. L.	. .	4	I–IV.	107 44 60.2	64.4	62.3	59.5	57.1	60.4	60.65	34.548	.536	
	59	Sun S. L.	. .	4	VI–IX.	108 14 60.9	65.8	61.9	59.6	57.7	60.8	61.12	31.706	.709	[illegible]
	60	Eunomia	. .	3	III–VII.	151 44 61.3	62.6	63.0	60.4	56.1	59.0	60.40	30.211	.231	
	61	Nadir 19h. 40m.	. .	4	. .	269 59 61.3	62.7	62.3	61.0	58.1	61.0	61.07	29.963	.97	
	62	Moon N. L.	. .	4	I–IV.	145 44 61.0	64.0	63.0	59.2	56.5	59.8	60.58	27.706	.87	
19	63	Sun S. L.	. .	4	I–IV.	108 24 60.9	66.3	62.0	60.3	58.1	62.0	61.60	29.850	[illegible]	[illegible]
	64	Sun N. L.	. .	4	VI–IX.	107 54 60.5	64.9	61.2	58.6	58.0	60.5	60.62	32.756	[illegible]	
	65	α Canis Majoris	. .	5	I–IX.	145 24 61.9	63.8	61.9	58.9	56.5	61.5	60.75	31.226	[illegible]	[illegible]

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	81.2	77.6	29.943	+ 3.8	— 41.7	52 49 22.5	+ 76 4 16.7	+ 19.6	N.	Cloudy.
2	. .	. .	. .	— 2 58.1	+ 1 44.1	152 13 44.3	— 23 20 5.1	— 16.8		
3	80.0	76.0	. .	6.4	2 28.7	159 52 21.5	— 30 58 42.3	17.7		
4	. .	. .	. .	1 7.9	0.2	90 13 53.2	+ 38 39 46.0	24.7		
5	. .	. .	. .	— 3 23.0	2 10.8	157 18 46.8	— 28 25 7.6	— 24.0		
6	79.7	75.3	. .	+ 1 0.2	58.6	136 46 59.2	7 53 20.0			
7										
8	. .	74.7	. .	2 20.2	+ 1 43.6	152 4 4.0	— 23 10 24.8			
9	84.0	93.8	29.929	+ 55.5	— 15 22.3	107 0 35.0	+ 4 53 4.2		D.	
10										
11	. .	. .	. .	— 1 50.3	+ 14.2	106 53 25.6	+ 21 44 27.2			
12	81.0	83.4	. .	16.3	+ 14.7	107 24 58.3				
13	82.5	81.0	. .	2 58.7	— 29 39.5	144 57 20.7	— 16 3 41.5			Good.
14										
15	. .	77.6	. .	4 13.0	+ 1 37.4	150 27 25.7	21 33 46.5	+ 50.7		
16	. .	. .	. .	— 20.8	1 47.2	152 46 29.2	23 52 50.0	48.4		
17	81.0	76.6	29.943	+ 1 10.7	1 48.2	152 57 58.1	24 4 18.9	43.3		
18	. .	. .	. .	— 35.3	2 18.2	158 16 41.9	29 23 2.7	40.5		
19	. .	. .	. .	— 43.3	2 18.2	158 16 33.9	29 22 54.7	40.5		
20	. .	. .	. .	+ 22.8	2 20.2	158 32 42.5	29 39 3.3	33.6		
21	80.0	75.0	. .	— 27.5	+ 1 28.9	148 0 59.6	— 19 7 20.4	26.0		
22	. .	. .	. .	— 1 5.5	— 52.6	46 38 4.9	+ 82 15 34.3	6.2		
23	79.0	73.7	. .	+ 10.4	+ 25.2	114 20 37.7	+ 14 33 1.5	9.0		
24	. .	. .	. .	— 2 56.7	2 33.1	160 9 35.5	— 31 15 56.3	12.6		
25	79.5	85.2	. .	40.9	1 19.2	145 25 39.7	— 16 32 0.5	19.2		
26	. .	. .	. .	— 1 11.7	14.7	107 34 6.3	+ 21 35 17.1			
27	81.0	86.7	. .	+ 2 22.0	+ 14.3	107 2 38.0				
28	80.5	77.4	. .	+ 1 49.0	— 31 23.9	147 25 24.3	— 18 31 45.1		Ha.	
29	80.0	76.5	. .	— 1 42.5	+ 50.4	132 14 7.0	— 3 20 27.8	37.1		
30	. .	. .	. .	+ 32.0	+ 23.5	292 55 56.7	+ 61 49 36.0	19.4		
31	. .	. .	. .	— 36.2	— 23.5	67 4 3.0	+ 61 49 36.2			
32										
33	79.5	74.6	. .	1 0.2	+ 1 45.1	152 10 46.4	— 23 17 7.2	25.9		
34	79.0	73.6	. .	15.9	— 25.3	245 39 22.5	+ 14 33 1.8	8.8		
35	. .	. .	. .	4 51.9	+ 25.3	114 20 36.7	+ 14 33 2.5			
36	. .	. .	. .	1 19.2	1 29.9	148 15 11.0	— 19 21 31.8	9.6		
37	. .	. .	. .	1 0.3	2 9.6	156 51 10.4	27 57 31.2	7.6		
38	. .	. .	. .	— 4 38.9	3 1.5	163 8 23.5	34 14 44.3	6.9		
39	78.5	73.0	. .	+ 3 29.0	+ 3 3.0	163 16 32.9	34 22 53.7	6.4		
40	76.3	72.0	. .	+ 14.1	— 32 38.0	148 52 33.4	19 58 54.2		N.	
41	74.7	78.2	. .	— 38.9	+ 1 20.0	145 25 40.2	— 16 32 1.0	18.7		Tremulous and blurred.
42	. .	. .	. .	+ 3 13.2	15.1	107 53 30.3	+ 21 15 54.2			
43	76.0	82.8	. .	+ 1 43.8	14.6	107 21 59.8				
44	78.0	75.3	. .	— 1 10.5	1 55.2	154 25 45.2	— 25 32 6.0	52.0	D.	
45										
46	77.0	72.7	. .	— 2 57.5	2 56.1	162 39 59.2	33 46 20.0	31.1		
47	76.7	71.5	. .	+ 54.4	52.7	133 21 47.7	4 28 8.5	14.2		
48	. .	. .	. .	— 39.9	1 43.7	151 46 4.0	— 22 52 24.8	+ 13.3		
49	. .	. .	. .	+ 33.9	+ 13.5	283 30 48.6	+ 52 24 27.9	— 3.5		
50	. .	. .	. .	— 2 34.2	— 49 28.1	148 47 57.4	— 20 10 29.8			
51	75.7	70.0	. .	+ 4.7	— 49 42.1	149 20 20.6				Wire VIII, the mountain tops; wire VI, more nearly the general surface.
52	. .	. .	. .	+ 15.2	+ 1 47.7	152 37 2.0	23 43 22.8	8.5		
53	. .	. .	. .	— 5 15.3	1 47.4	152 31 31.1	— 23 37 51.9	11.1		
54	74.5	69.2	. .	1 7.9	0.2	90 13 52.4	+ 38 39 46.8	— 26.3		
55	. .	67.6	. .	— 2 24.3	59.3	136 33 34.6	— 7 39 55.4			Very faint.
56	73.0	66.6	. .	+ 5.4	1 45.0	151 51 49.7	— 22 58 10.5			
57										
58	. .	. .	. .	— 2 23.9	14.9	107 42 51.6	+ 20 55 2.9		N.	
59	77.2	89.7	. .	55.3	15.2	108 14 21.0				
	73.7	68.8	. .	— 9.0	+ 1 45.2	151 46 36.5	— 22 52 57.3			
61										
62	. .	68.5	. .	+ 1 4.9	— 32 3.6	145 14 1.9	— 16 20 22.7			
63	78.5	88.7	. .	+ 3.3	+ 15.5	108 25 20.4	+ 20 44 5.3		Ha.	
64	. .	. .	. .	— 1 28.2	15.0	107 53 47.4				
65	78.3	86.6	. .	— 41.0	+ 1 18.7	145 25 38.4	— 15 31 59.2	+ 17.8	N.	Tremulous.

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
July 20	1	Sun N. L. . . .	. .	4	I-IV.	108 4 62.6	66.6	61.0	58.7	59.1	63.8	61.97	30.246	.244	. .
	2	Sun S. L. . . .	. .	4	VI-IX.	108 34 63.2	69.6	62.4	61.0	61.6	65.9	63.95	27.380	.394	30.051
21	3	Sun S. L. . . .	. .	5	III-VII.	108 49 60.9	63.7	60.3	58.1	57.4	61.7	60.35	33.718	.718	30.000
	4	Nadir 17h. 35m. . .	. .	4	. .	269 59 60.5	58.9	60.3	56.6	56.0	59.2	58.58	29.893	.902	. .
	5	ψ^1 Draconis	. .	4	VI-IX.	56 39 62.2	62.8	65.9	63.1	59.7	65.0	63.12	27.969	.904	30.033
	6	B. A. C. 2095, S. P.	. .	3	5-1.	28 34 59.2	61.4	64.4	63.0	57.5	60.0	60.92	25.707	.710	. .
	7	α Lyræ	. .	5	I-IX.	90 14 60.6	62.5	62.2	59.8	56.4	61.5	60.50	32.169	.166	. .
22	8	Sun N. L. . . .	. .	4	I-IV.	108 29 60.0	65.8	61.6	61.1	55.4	58.1	60.33	32.844	.830	30.132
	9	Sun S. L. . . .	. .	4	VI-IX.	108 59 60.0	64.7	60.5	60.8	55.6	58.0	59.93	29.886	.893	. .
	10	Nadir 8h. 46m. . .	. .	3	. .	269 59 60.1	63.0	61.7	61.2	56.8	58.0	60.13	29.937	.947	. .
	11	α Lyræ	. .	5	III-VII.	90 14 59.3	66.6	63.9	64.5	57.9	60.4	62.10	32.209	.206	30.164
23	12	Sun S. L. . . .	. .	2	I, III.	109 14 59.2	67.3	60.9	63.4	57.7	60.3	61.47	35.073	.065	. .
	13	Sun N. L. . . .	. .	2	VII, IX.	108 39 59.5	69.0	61.6	62.7	57.5	60.5	61.80	28.359	.374	30.226
	14	Nadir 11h. 40m. . .	. .	3	. .	269 59 61.6	61.9	61.0	58.1	58.4	60.5	60.25	29.924	.934	. .
	15	B. A. C. 5946 . .	. .	5	I-IX.	156 49 61.4	64.0	61.9	60.2	57.3	58.5	60.55	31.796	.813	30.203
	16	O. Arg. S. 17209 .	. .	3	III-VII.	149 39 61.5	64.0	63.2	60.9	57.2	58.5	60.88	32.049	.067	. .
	17	O. Arg. S. 17506 .	. .	1	V.	151 54 59.3	63.3	61.8	59.2	56.3	57.9	59.63	33.187	.204	. .
	18	O. Arg. S. 17681 .	. .	2	IV, VI.	150 9 59.6	62.1	61.4	58.9	55.9	56.0	58.98	33.817	.823	. .
	19	B. A. C. 6190 . .	. .	1	IV.	157 39 60.1	63.3	62.7	60.0	57.1	58.0	60.20	43.395	.410	. .
	20	B. A. C. 2095, S. P.	. .	5	VII-III.	28 34 58.7	63.2	65.0	63.5	59.0	59.7	61.52	25.671	.715	. .
	21	α Lyræ	. .	3	III-VII.	90 14 58.0	64.1	61.3	59.6	57.5	60.0	60.08	32.134	.142	30.203
	22	B. A. C. 2326, S. P.	. .	2	VI, IV.	31 34 60.2	67.0	65.1	65.6	59.6	61.1	63.10	30.629	.668	. .
	23	Eunomia	. .	1	V.	157 29 61.0	63.0	63.1	60.5	56.1	67.9	61.93	27.870	.876	30.207
25	24	Nadir 17h. 30m. . .	. .	3	. .	269 59 59.4	61.2	61.2	59.0	56.6	58.9	59.39	29.892	.900	. .
	25	O. Arg. S. 17091 .	7.5	1	V.	152 9 59.5	62.5	62.3	59.0	55.8	57.2	59.38	32.705	.708	30.003
	26	B. A. C. 6015 . .	6.2	1	IX.	155 44 61.0	63.2	62.8	59.1	56.0	57.7	59.97	26.329	.370	. .
	27	B. A. C. 6249 . .	6.5	5	III-VII.	159 19 60.7	63.4	64.7	62.1	56.8	57.8	60.92	31.961	.975	30.002
	28	Anon. 18h. 29m. 57s.	. .	1	V.	152 14 61.0	64.0	64.3	61.8	56.9	58.2	61.03	16.150	.167	. .
	29	B. A. C. 6346 . .	6.3	1	V.	" " "	"	"	"	"	"	"	40.411	.423	. .
	30	Lacaille 7823 . .	8:	1	V.	168 14 61.3	63.6	65.0	63.2	56.9	58.2	61.37	32.259	.276	. .
	31	Lacaille 7873 . .	8:	5	III-VII.	" " "	"	"	"	"	"	"	41.789	.798	. .
	32	Victoria	8.5	3	III-VII.	136 24 60.5	65.0	63.8	60.0	57.9	59.3	61.08	34.559	.566	. .
	33	Eunomia	9.0	3	III-VII.	151 24 60.1	63.0	63.4	60.4	56.0	56.2	59.85	29.307	.327	30.003
	34	Weisse XIX, 1319 .	7.0	1	V.	143 9 60.4	64.2	63.5	61.0	56.7	58.1	60.65	28.498	.507	30.009
	35	Psyche	9.8	1	V.	146 44 60.2	62.3	62.0	59.1	55.1	57.6	59.38	27.065	.079	. .
26	36	Sun N. L. . . .	. .	2	I, III.	109 19 59.4	66.4	59.0	60.8	58.2	60.2	60.67	30.322	.314	30.156
	37	Sun S. L. . . .	. .	2	VII, IX.	109 49 56.4	65.3	58.7	59.6	56.9	58.8	59.28	27.356	.371	. .
	38	Nadir 12h. . . .	. .	5	. .	269 59 61.0	59.4	59.1	55.6	58.3	60.6	59.00*d*	29.870	.880	. .
	39	B. A. C. 5724 . .	. .	1	V.	132 54 61.3	64.4	60.5	57.4	58.0	61.3	60.48	32.565	.573	30.188
	40	ω Draconis	. .	5	III-VII.	60 4 61.5	63.4	64.6	60.1	61.4	65.4	62.73	30.713	.696	30.200
	41	Nadir 18h. . . .	. .	3	. .	269 59 60.3	62.3	60.4	57.8	58.6	61.4	60.13*d*	29.913	.921	. .
27	42	Sun S. L. . . .	. .	4	I-IV.	110 4 59.8	63.2	59.6	57.7	58.5	61.0	59.97	29.988	.979	. .
	43	Sun N. L. . . .	. .	4	VI-IX.	109 34 60.4	64.1	59.0	57.5	58.3	60.9	60.03	32.873	.882	30.259
	44	1 Aquilæ	. .	5	I-IX.	137 9 61.4	61.5	60.2	56.0	56.0	59.8	59.15	24.913	.924	30.216
	45	α Lyræ	. .	4	. .	90 14 61.6	62.6	63.2	57.5	59.4	63.7	61.33	32.269	.267	. .
	46	Nadir 18h. 40m. . .	. .	4	. .	269 59 60.5	59.4	60.0	56.3	57.2	61.2	59.10	29.887	.894	. .
	47	Victoria	. .	1	V.	136 19 60.5	62.6	60.5	55.0	57.8	60.2	59.43	24.595	.600	30.212
	48	α Canis Majoris . .	. .	2	VII, IX.	145 24 60.1	63.9	60.9	57.4	56.8	59.6	59.78	31.225	.251	30.220
28	49	Sun N. L. . . .	. .	2	I, III.	109 49 60.0	63.6	58.4	57.8	58.5	62.1	60.07	34.910	.894	. .
	50	Sun S. L. . . .	. .	2	VII, IX.	110 19 59.2	63.3	58.3	56.5	57.9	60.2	59.23	31.927	.937	30.191
	51	Nadir 12h. . . .	. .	6	. .	269 59 58.8	54.7	55.1	50.9	54.7	59.4	55.60*d*	29.760	.768	. .
	52	O. Arg. S. 17728 .	. .	5	I-IX.	148 14 57.3	56.0	56.1	51.8	51.2	55.5	54.65	30.541	.557	. .
	53	B. A. C. 6220 . .	. .	3	I-V.	157 24 57.2	58.3	57.0	53.1	52.1	55.7	55.57	28.569	.586	30.072
	54	Victoria	. .	1	V.	136 24 59.5	63.0	59.5	54.9	56.2	60.0	58.85	33.597	.602	30.063
	55	Eunomia	. .	1	IX.	151 14 60.4	60.6	60.0	55.5	55.5	58.1	58.35	34.575	.600	30.064
	56	λ Ursæ Minoris, (Ref.)	. .	2	1, 2.	319 59 61.0	61.9	61.8	55.2	55.5	60.2	59.27	30.644	.653	. .
	57	λ Ursæ Minoris . .	. .	3	. .	39 59 59.4	62.1	63.0	61.0	52.9	63.7	60.35	29.228	.181	. .
	58	α Cygni, (Ref.) . .	. .	2	I, III.	275 54 59.6	59.7	61.0	56.8	58.0	61.6	59.45	31.258	.307	. .
	59	α Cygni	. .	2	VIII, IX.	84 4 60.4	62.3	62.0	60.0	58.6	64.3	61.27	28.651	.615	30.051
	60	Nadir 21h. 50m. . .	. .	3	. .	269 59 59.5	60.9	60.1	56.5	57.3	61.5	59.30	29.895	.902	. .
	61	ζ Cygni	. .	5	I-IX.	99 14 59.5	62.7	59.5	57.3	55.8	60.4	59.20	33.825	.814	30.045
	62	Neptune	. .	2	I, VII.	126 59 59.2	62.3	60.0	55.5	55.0	58.1	58.35	31.259	.275	29.991
	63	α Canis Majoris . .	. .	3	IV-VI.	145 24 59.1	61.1	58.4	56.0	54.5	57.8	57.82	31.125	.142	29.984
29	64	Sun S. L. . . .	. .	4	I-IV.	110 34 62.6	65.2	60.4	59.0	60.0	63.1	61.72	33.411	.403	29.956
	65	Sun N. L. . . .	. .	4	VI-IX.	109 59 63.9	65.9	61.0	60.2	61.6	64.2	62.80	26.819	.826	. .
	66	Mercury, centre . .	. .	1	V.	112 24 60.2	61.1	56.6	54.9	57.8	61.2	58.63	27.859	.864	29.936

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ″ ′	″		
1									N.	
2	. .	. .	30.004	− 3 6.5	+ 2 39.0	160 29 32.2	− 31 35 53.0	− 21.8		
3	72.7	63.3	. .	+ 6 37.6	2 40.4	160 39 17.7	31 45 38.5	− 22.4		Faint and uncertain.
4	71.0	62.5	. .	− 1 2.3	1 3.1	137 55 0.2	− 9 1 21.0			
5	73.0	73.5	29.955	1 46.5	15.3	107 33 30.0	+ 21 20 9.2		Ha.	
6	74.5	75.1	. .	− 55.0	14.0	105 14 22.1	23 39 17.2			
7	. .	. .	. .	+ 1 59.2	13.2	105 22 13.0	+ 23 15 40.6			
8	. .	. .	. .	− 1 31.3	13.7	105 53 44.3				
9	75.5	75.5	. .	39.1	1 20.9	145 25 41.4	− 16 32 2.2	+ 22.3		
10	76.0	78.3	. .	1 0.0	35.7	123 19 35.2	+ 5 34 4.0	+ 42.1		
11										
12	73.7	79.2	. .	− 2 4.2	14.9	107 13 13.1	21 40 26.1		D.	
13	. .	. .	29.950	+ 1 47.4	13.5	105 57 3.3	23 12 21.2			
14	75.5	81.8	. .	17.3	+ 13.0	105 25 32.7				
15										
16	73.0	67.0	. .	+ 3 21.5	− 3 27.3	14 59 54.2	+ 66 6 15.0	− 17.7		
17	72.5	66.0	. .	− 3.5	+ 2 28.6	159 17 25.7	− 30 23 46.5	+ 13.7		
18	. .	. .	. .	− 2 26.1	2 5.1	155 44 39.2	26 51 0.0	6.6		
19	. .	. .	. .	+ 3 48.7	2 29.9	159 26 20.4	− 30 32 41.2	+ 2.4		
20	72.0	65.0	. .	− 1 5.8	0.2	90 13 56.2	+ 38 39 43.0	− 21.2		
21	71.0	64.3	. .	+ 1 39.1	1 2.5	137 42 42.9	− 8 49 3.7			
22	76.0	85.5	29.934	− 2.7	14.0	106 35 11.8	+ 22 18 27.4		Ha.	
23	77.5	87.2	. .	1 55.6	13.5	105 13 19.3	23 40 19.9			
24	. .	. .	29.886	55.5	13.0	106 9 14.0	+ 23 0 8.0		D.	Through clouds.
25	83.3	97.1	. .	2 25.2	12.6	105 37 48.4				
26										Image of wire indistinct and unsteady.
27	80.7	78.8	30.018	17.0	1 41.2	151 41 21.2	− 22 47 42.0	+ 39.3		
28	. .	. .	. .	− 1 0.4	1 47.5	153 5 43.7	24 12 4.5	31.7		
29	80.5	77.6	. .	+ 1 6.1	53.8	134 26 58.4	5 33 19.2	23.4		
30	. .	. .	. .	− 33.8	1 47.0	152 56 13.5	24 2 34.3	22.2		
31	. .	. .	. .	4 34.2	4 21.2	168 29 47.5	39 36 8.3	19.9		
32	. .	. .	. .	− 3 28.3	3 0.8	163 19 34.9	34 25 55.7	14.2		
33	. .	. .	. .	+ 4 30.6	+ 3 2.2	163 27 35.2	− 34 33 56.0	+ 14.2		
34	. .	. .	. .	+ 2 19.2	− 2 3.7	23 50 19.1	+ 74 56 39.8	− 2.8		Probably read wrong index, making an error of —0r.250=+7″.8.
35	80.0	76.0	. .	− 2 18.4	+ 2 1.4	155 44 42.6	− 26 51 3.4	+ 6.6		
36	. .	. .	. .	+ 10.9	2 34.2	160 32 45.4	31 39 6.2	+ 2.7		
37	. .	. .	. .	− 1 45.6	+ 2 2.9	156 0 16.6	− 27 6 37.4	− 1.5		
38	79.3	75.5	. .	+ 29.5	− 43.2	51 54 50.9	+ 76 58 48.3	9.5		
39	. .	74.0	. .	− 1 8.0	+ 0.2	90 13 55.8	+ 38 39 43.4	22.1		
40	. .	. .	. .	− 19.1	4 24.0	168 34 8.2	− 39 40 29.0	28.0		
41	. .	. .	. .	+ 1 43.0	4 24.8	168 36 11.1	39 42 31.9	− 29.1		
42	. .	. .	. .	− 12.1	1 0.2	137 25 50.8	8 32 11.6			
43	78.0	72.3	. .	+ 1 31.8	1 45.5	152 23 22.1	23 29 42.9			
44										
45	75.0	69.4	30.010	− 37.5	1 59.5	155 1 20.3	26 7 41.1	+ 37.4	N.	
46	. .	. .	. .	− 1 32.8	52.4	133 4 19.1	4 10 39.9			
47	. .	. .	. .	+ 38.8	1 34.1	149 17 11.7	20 23 32.5	22.2		
48	72.0	65.7	. .	− 27.7	1 1.1	137 15 33.6	8 21 54.4			
49										
50	71.7	65.0	. .	+ 2 29.8	1 47.3	152 19 20.2	− 23 25 41.0			
51	76.4	81.7	29.949	− 1.2	13.4	105 35 17.2	+ 23 18 22.0			
52	78.0	83.8	. .	− 1 30.3	13.3	105 53 44.9	+ 22 44 7.2		Ha.	
53	. .	. .	. .	+ 3.9	13.8	106 25 19.2				
54										
55	78.0	75.3	29.961	− 1 20.5	1 6.5	140 9 46.8	− 11 16 7.6	63.7	D.	Faint and uncertain.
56	. .	74.0	. .	3.5	1 1.8	138 0 58.9	9 7 19.7	55.1		
57										
58	. .	. .	. .	2 1.6	2 22.3	158 45 19.9	29 51 40.7	44.9		
59	77.0	72.4	. .	− 2 14.4	2 20.6	158 30 4.5	29 36 25.3	39.8		
60	. .	. .	. .	+ 3 17.6	1 33.9	149 19 49.0	20 26 9.8	30.1		
61	76.5	72.5	. .	+ 25.4	1 1.0	137 31 26.7	8 37 47.5	24.0		
62	. .	. .	. .	− 25.4	+ 2 14.7	157 36 50.4	− 28 43 11.2	22.6		
63	. .	. .	. .	14.6	− 25.3	245 39 21.2	+ 14 33 0.4	10.4		
64	76.0	71.3	. .	2 59.4	+ 2 33.5	160 9 33.2	− 31 15 54.0	12.3		
65	. .	. .	. .	− 59.2	+ 2 10.1	156 51 11.1	− 27 57 31.9	+ 7.4		

DATE.	Number.		OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
							A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
							° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. July 5	1		Anon. 17h. 35m. 23s.	. .	3	III-VII.	160 4 61.6	65.3	65.6	62.3	58.9	59.9	62.27	32.896	.909	. .
	2		B. A. C. 6023	. .	5	I-IX.	152 59 61.0	64.4	65.4	61.3	58.0	59.8	61.65	27.579	.595	. .
	3		Anon. 17h. 49m. 54s.	. .	5	III-VII.	167 19 58.6	64.6	64.2	61.7	58.3	57.4	60.80	24.667	.676	. .
	4	λ	Sagittarii	. .	5	I-IX.	154 24 58.5	62.0	62.0	57.0	56.1	56.5	58.68	37.286	.315	30.126
	5	α	Lyræ	. .	4	I, III, V, IX.	90 14 59.6	63.9	62.7	59.3	58.3	59.9	60.57	32.078	.070	. .
	6	ζ	Sagittarii	. .	5	I-IX.	158 54 60.8	65.6	65.7	63.1	56.7	59.3	61.87	29.461	.486	. .
	7		Victoria	. .	1	V.	137 9 61.4	65.1	62.4	59.8	57.5	58.3	60.75	30.364	.378	30.113
	8		Nadir 19h. 25m.	. .	3	. .	269 59 61.4	66.6	65.4	63.7	60.0	63.5	63.40	30.060	.070	. .
	9		Eunomia	. .	1	V.	152 14 59.1	64.0	63.0	60.7	56.1	58.0	60.15	28.990	.001	30.106
6	10		Sun S. L.	. .	4	I-IV.	106 29 57.5	62.7	60.5	57.0	57.5	58.0	58.87	27.741	.729	. .
	11		Sun N. L.	. .	4	VI-IX.	105 59 60.2	65.5	62.9	60.8	59.8	61.0	61.70	30.656	.654	30.06
	12		Nadir 7h. 15m.	. .	3	. .	269 59 59.4	58.9	59.9	56.2	55.3	58.7	58.07	29.887	.897	. .
	13		Nadir 7h. 15m.	. .	0	. .	269 59 58.5	59.9	60.0	57.2	56.4	59.8	58.63	. .	. .	. .
	14		B. A. C. 5110	7.5	1	V.	154 9 59.0	57.4	58.5	51.4	54.1	56.4	56.13	25.860	.865	. .
	15		Anon. 15h. 28m. 2s.	9.5	1	V.	152 34 62.4	60.4	62.0	55.1	56.8	60.1	59.47	26.799	.803	29.965
	16		O. Arg. S. 15195	7.3	5	III-VII.	152 44 63.2	61.5	62.9	57.1	57.6	60.9	60.53	34.157	.177	. .
	17		O. Arg. S 15271	8.7	1	V.	158 44 63.4	62.5	64.1	58.5	58.2	59.8	61.08	29.875	.881	. .
	18		O. Arg. S. 15403	7.2	4	VI-IX.	152 14 62.7	61.5	62.9	56.4	57.8	60.4	60.28	25.302	.328	. .
	19	ρ	Ophiuchi, (south *)	6.2	3	I, V, IX.	151 59 62.9	61.6	63.1	57.1	58.7	61.5	60.82	30.281	.312	. .
	20	ρ	Ophiuchi, (north *)	6.8	2	III-VII.	" " "	"	"	"	"	"	"	30.443	.460	29.990
	21	α	Scorpii	. .	1	V.	154 59 62.1	61.0	60.9	55.5	57.2	60.0	59.45	31.137	.154	. .
	22		B. A. C. 5571	6.7	5	III-VII.	153 4 62.5	60.5	62.7	56.6	57.1	60.7	60.02	31.997	.011	. .
	23		Juno	10.0	1	VIII.	133 9 62.4	62.5	61.1	56.5	57.9	62.3	60.45	34.161	.182	. .
	24	ε	Ursæ Minoris	. .	1	V.	46 39 61.4	60.0	64.1	58.4	59.9	62.1	60.98	32.001	.013	29.98
	25		Nadir 17h. 20m.	. .	4	. .	269 59 62.1	60.0	61.1	56.7	58.5	61.8	60.03	29.960	.970	. .
	26		Anon. 17h. 50m. 31s.	9.0	1	V.	160 14 62.1	60.5	62.7	55.8	55.7	58.6	59.23	26.950	.959	. .
	27	δ	Ursæ Minoris	. .	5	1-5.	42 19 61.4	62.8	65.5	60.8	60.4	63.2	62.35	33.403	.414	29.982
	28	α	Lyræ	. .	4	I, V, VII, IX.	90 14 63.0	63.5	63.1	58.4	59.8	64.3	62.02	32.122	.118	. .
	29		Victoria	. .	5	III-VII.	137 4 62.9	63.4	62.1	57.5	57.9	60.6	60.73	29.444	.456	29.976
	30		Eunomia	. .	5	I-IX.	152 14 62.5	62.7	64.1	58.8	57.9	61.5	61.25	32.935	.955	. .
	31		Mercury	. .	5	I-IX.	105 14 62.3	67.6	63.7	62.0	63.5	66.8	64.32	27.240	.246	29.92
7	32		Sun N. L.	. .	1	VI.	106 4 60.2	65.9	61.8	59.3	61.5	64.6	62.22	27.764	.768	29.925
	33		Mercury	. .	5	I-IX.	105 9 61.7	64.5	62.5	59.2	60.9	64.6	62.23	28.844	.838	. .
8	34		Sun N. L.	. .	4	I-IV.	106 14 60.4	63.1	60.8	56.6	60.2	62.0	60.52	33.705	.691	30.027
	35		Sun S. L.	. .	4	VI-IX.	106 44 60.3	63.0	60.9	55.4	58.6	61.8	60.00	30.872	.874	. .
	36		Nadir 7h. 30m.	. .	4	. .	269 59 60.9	57.5	58.9	54.0	56.5	62.3	58.35	29.887	.896	. .
	37		O. Arg. S. 15403	7.0	1	V.	152 14 60.7	59.7	61.4	55.0	55.6	59.8	58.70	25.268	.285	30.133
	38		O. Arg. S. 15566	. .	3	IV-VI.	151 39 61.8	60.5	62.7	55.8	56.0	60.1	59.48	30.625	.630	. .
	39	α	Scorpii	. .	3	V-VII.	154 59 62.2	60.7	61.9	55.4	56.8	60.7	59.62	31.158	.178	. .
	40		O. Arg. S. 15784	7.2	1	V.	151 29 62.2	60.9	62.6	56.9	56.5	59.9	59.83	32.182	.199	. .
	41		Anon. 16h. 35m. 40s.	. .	1	V.	149 19 63.2	61.4	63.8	57.0	57.0	60.2	60.43	33.301	.317	. .
	42		B. A. C. 6310	7.5	5	III-VII.	159 49 63.2	61.5	65.5	60.3	56.0	59.8	61.05	30.233	.255	30.167
	43	α	Lyræ	. .	5	I-IX.	90 14 60.6	60.4	62.2	56.5	56.5	61.8	59.66	32.060	.054	. .
	44		B. A. C. 6382	. .	3	IV-VI.	157 14 61.5	60.1	61.8	57.3	54.8	58.2	58.95	26.867	.875	.
	45	ν^1	Sagittarii	. .	3	IV-VI.	151 44 61.1	59.6	62.9	57.1	55.3	58.9	59.15	27.547	.554	. .
	46		Victoria	8.0	1	V.	136 59 61.0	62.5	61.1	56.5	56.1	59.0	59.37	35.952	.961	30.164
	47		Nadir	. .	3	. .	269 59 61.1	62.0	61.7	59.6	56.9	61.9	60.53	29.963	.973	. .
	48		Mercury	. .	2	V, VII.	105 4 60.8	66.1	63.6	61.7	60.5	64.9	62.93	25.730	.728	30.281
9	49		Sun S. L.	. .	2	I, III.	106 49 61.2	67.3	63.7	59.0	60.0	62.0	62.20	26.552	.538	. .
	50		Sun N. L.	. .	2	VI, VIII.	106 19 62.4	66.2	63.9	61.6	62.5	63.4	63.33	29.345	.332	30.276
	51		Nadir 11h.	. .	2	. .	269 59 60.9	59.0	59.0	54.0	57.0	61.4	58.55	29.878	.888	. .
	52		O. Arg. S. 15660	. .	5	III-VII.	153 4 61.8	62.2	63.7	59.7	56.9	60.3	60.77	29.183	.203	30.242
	53		B. A. C. 5641	. .	5	I-IX.	153 29 61.7	63.8	64.1	58.5	55.2	59.5	60.47	34.420	.443	. .
	54		Anon. 16h. 51m. 11s.	9.0	5	I-IX.	132 59 61.0	64.7	62.1	59.6	56.9	62.1	61.07	29.031	.046	. .
	55		B. A. C. 5724	6.0	3	V-IX.	" " "	"	"	"	"	"	"	42.080	.097	.
	56		B. A. C. 5782	. .	5	I-IX.	168 9 62.6	63.6	65.3	62.2	57.1	59.4	61.70	31.297	.333	.
	57		B. A. C. 5833	. .	5	I-IX.	160 4 61.9	64.0	65.1	60.4	56.7	60.0	61.35	32.236	.268	30. .
	58		B. A. C. 5892	. .	2	IV, VI.	160 9 61.8	63.9	65.5	60.4	55.6	59.9	61.18	35.678	.682	
	59		B. A. C. 5943	. .	5	I-IX.	157 14 61.8	63.1	64.0	59.7	56.5	59.0	60.68	34.992	35.016	
	60		B. A. C. 6046	. .	3	III-VII.	163 14 59.9	61.4	62.5	58.4	55.1	57.5	59.13	26.970	.986	. .
	61		Anon. 17h. 55m. 44s.	. .	5	I-IX.	151 44 58.0	61.0	61.7	57.4	54.1	57.0	58.20	35.591	.60	
	62	μ^1	Sagittarii	. .	5	I-IX.	149 59 57.8	59.8	59.9	57.3	53.1	55.0	57.15	34.875	.8	30.2
	63		B. A. C. 2059, S. P.	. .	2	5, 1.	28 34 55.3	60.3	62.0	60.4	55.2	57.0	58.37	25.547	[illegible]	.
	64	α	Lyræ	. .	5	I-IX.	90 14 44.1	45.9	44.8	43.0	39.3	43.4	43.42	31.563	[illegible]	30.
	65		Nadir 19h. 15m.	. .	3	. .	269 59 60.4	62.1	61.9	61.0	57.0	61.2	60.60	29.953	.963	.

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.943	— 9.4	+ 15.1	108 5 7.6	+ 20 32 45.8		N.	
2	80.5	90.0	. .	+ 1 19.9	+ 15.5	108 36 39.3				Microscopes read by D.
3	80.0	84.9	. .	— 1 58.3	— 15 31.1	108 32 30.9	20 21 8.3			
4										
5	76.0	68.3	. .	+ 1 3.9	36.9	56 40 30.1	72 13 9.1	— 11.4		Through dense haze.
6	. .	66.6	. .	+ 2 12.6	— 1 42.9	28 35 30.6	79 41 51.4	+ 25.0		Through dense haze.
7	. .	. .	. .	— 1 9.7	+ 0.2	90 13 51.0	38 39 48.2	— 27.5		
8	73.0	75.5	. .	— 1 30.5	15.9	108 28 45.7	20 9 7.4		Ha.	
9	. .	. .	. .	+ 1.6	16.4	109 0 17.9				
10										
11	68.0	60.9	. .	— 1 10.9	0.2	90 13 51.4	38 39 47.8	— 27.8		
12	. .	. .	29.926	— 2 41.0	16.5	109 12 36.9	+ 19 56 47.6		D.	
13	71.7	82.2	. .	+ 48.6	15.9	108 41 6.3				
14										Image dim.
15	72.5	69.1	. .	— 59.1	2 10.8	156 51 12.2	— 27 57 33.0	+ 8.0		
16	. .	. .	29.918	1 7.3	1 36.2	149 40 29.7	20 46 50.5	+ 1.8		
17	. .	. .	. .	1 43.0	1 45.5	151 55 2.1	23 1 22.9	— 4.2		
18	. .	. .	. .	2 2.3	1 38.3	150 9 34.9	21 15 55.7	7.3		
19	. .	. .	. .	— 7 2.8	+ 2 16.3	157 35 13.7	— 28 41 34.5	— 9.8		
20	. .	65.7	. .	+ 2 11.7	— 1 43.7	28 35 29.5	+ 79 41 50.2	+ 23.4		
21	71.0	65.4	. .	— 1 9.7	+ 0.2	90 13 50.5	38 39 48.7	— 28.1		
22	. .	64.5	. .	— 23.5	— 1 32.4	31 33 7.2	+ 82 39 27.9	+ 36.8		
23	70.0	64.1	. .	+ 1 4.0	+ 2 16.8	157 33 22.7	— 28 39 43.5		N.	Hazy; very doubtful.
24										
25	70.7	66.5	. .	— 1 27.4	1 46.2	152 10 18.1	23 16 38.9	+ 4.9		
26	. .	. .	. .	+ 1 51.2	2 4.6	155 48 55.7	26 55 16.5	+ 3.1		
27	70.0	64.8	. .	— 1 4.4	2 28.3	159 21 24.8	30 27 45.6	— 13.6		
28	. .	. .	. .	+ 7 10.9	1 47.4	152 23 59.3	23 30 20.1	19.7		
29	. .	. .	. .	— 5 29.2	1 46.5	152 11 18.3	23 17 39.1	20.6		
30	. .	. .	. .	1 13.9	4 24.0	168 18 11.4	39 24 32.2	19.4		Blurred; uncertain.
31	. .	. .	. .	6 12.2	4 22.2	168 13 11.3	39 19 32.1	23.2		
32	. .	. .	. .	— 2 25.6	59.2	136 23 34.6	7 29 55.4			
33	69.2	65.0	. .	+ 18.5	1 43.5	151 27 1.8	22 33 22.6			
34	68.7	63.9	. .	44.2	1 15.5	143 12 0.3	14 18 21.1	— 56.0		
35	. .	. .	. .	+ 1 29.0	1 26.3	146 47 54.6	— 17 54 15.4			Very faint.
36	72.5	84.5	. .	— 12.4	16.4	109 20 4.6	+ 19 17 49.0		D.	Both limbs tremulous.
37	. .	. .	. .	+ 1 19.8	16.9	109 51 35.9				
38										
39	75.0	74.6	. .	— 1 23.2	+ 51.8	132 54 29.0	— 4 0 49.8	+ 17.5		
40	75.0	73.1	. .	24.4	— 32.2	60 4 6.1	+ 68 49 33.1	— 10.2		
41										
42	. .	. .	. .	— 1.9	+ 17.1	110 5 15.1	+ 19 4 9.8		N.	
43	76.5	88.0	. .	+ 1 32.9	16.6	109 33 43.7				
44	76.5	74.1	. .	+ 2 36.5	1 0.3	137 13 35.9	— 8 19 56.7	21.8		
45	. .	. .	. .	— 1 13.6	0.2	90 13 47.9	+ 38 39 51.3	— 29.2		Wires I, III, V, VIII. Cloudy.
46										
47	76.0	73.7	. .	+ 2 46.6	58.6	136 23 44.6	— 7 30 5.4			Faint and uncertain. Bar. and ther. read at 19h. 12m. Whole number rev. recorded 34.
48	77.0	86.6	. .	— 41.8	1 19.0	145 25 36.9	— 16 31 57.7	+ 16.4	D.	
49	. .	. .	. .	2 35.9	16.7	109 47 40.8	+ 18 50 12.2			Whole number rev. recorded 35.
50	80.0	89.7	. .	1 3.2	17.2	110 19 13.2				
51										Good.
52	. .	. .	. .	— 20.0	1 29.2	148 16 3.8	— 19 22 24.5	— 8.2		Degrees and minutes of circle reading assumed.
53	79.5	76.7	. .	+ 41.7	2 12.3	157 27 49.5	28 34 10.3	11.7		Clouds from wire VI to IX. Differs 5′ from B. A. C.
54	79.0	76.0	. .	— 1 55.4	58.1	136 24 1.5	7 30 22.3			
55	78.7	75.5	. .	2 26.7	1 40.6	151 14 12.2	— 22 20 33.0			At. ther. recorded 73.7.
	. .	. .	. .	— 23.0	+ 1 6.1	320 0 42.3	+ 88 54 21.5	56.5		
	. .	. .	. .	+ 23.2	— 1 6.1	39 59 17.4	88 54 21.8			At 20h. 6m. 57s., 8m. 12s., and 9m. 27s.
	. .	. .	. .	— 43.5	+ 5.8	275 54 21.7	44 48 0.9	68.6		
	77.5	73.5	. .	+ 40.8	— 5.8	84 5 36.2	44 48 3.0			
61	[illegible]	73.0	. .	— 2 2.1	+ 9.0	99 13 6.1	29 40 33.1	— 77.4		Whole number rev. recorded 34.
62	[illegible]	69.3	. .	42.5	42.0	126 59 57.8	+ 1 53 41.4			
63	[illegible]	88.7	. .	38.3	1 18.1	145 25 37.6	— 16 31 58.4	+ 16.4	Ha.	
64	84.0	93.1	. .	— 1 49.2	17.1	110 33 29.6	+ 18 35 56.3			
65	. .	. .	. .	+ 1 36.9	16.6	110 1 56.3				
66	86.5	94.1	. .	+ 1 4.3	+ 19.5	112 26 22.4	+ 16 27 16.8			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. July 29	1	α Ophiuchi, (Ref.) .	. .	4	I-IV.	243 44 60.1	55.2	60.0	52.6	55.3	62.1	57.55	26.573	.584	29.908
	2	α Ophiuchi	.	3	VII-IX.	116 14 60.8	58.3	56.1	51.4	55.1	60.4	57.02	33.125	.134	. .
	3	Anon. 17h. 43m. 21s.	9.0	1	V.	157 29 60.9	58.2	58.3	53.5	55.6	59.0	57.58	37.006	.018	.
	4	γ Draconis, (Ref.) .	. .	4	I-IV.	282 34 60.4	55.5	58.8	51.9	54.9	60.8	57.05	26.262	.310	. .
	5	γ Draconis	. .	4	VI-IX.	77 24 60.3	59.1	62.2	56.0	59.6	64.0	60.20	33.418	.399	29.908
	6	Nadir 18h. 10m. . .	. .	3	. .	269 59 60.3	57.3	57.5	53.0	55.9	61.7	57.62*d*	29.835	.840	. .
	7	Anon. 18h. 29m. 38s.	8.0	1	V.	152 14 60.2	58.0	59.0	54.1	54.4	58.9	57.43	15.940	.949	. .
	8	B. A. C. 6346 . .	7.0	4	VI-IX.	" " "	"	"	"	"	"	"	40.164	.191	29.904
	9	Victoria	9.0	1	V.	136 24 59.8	59.3	58.1	53.0	55.3	59.7	57.53	32.385	.399	. .
	10	Eunomia	9.0	1	IX.	151 14 61.7	59.2	61.2	55.6	55.3	60.0	58.83	33.061	.095	29.900
	11	Neptune	. .	5	III-VII.	126 59 61.0	61.4	60.5	57.0	55.2	59.1	59.03	30.749	.752	29.886
30	12	Sun N. L. . . .	. .	2	VII, IX.	110 14 61.5	63.7	59.5	56.7	58.1	61.5	60.17	27.475	.489	29.920
	13	Mercury	. .	5	I-IX.	113 4 61.0	62.5	58.6	58.0	56.9	63.0	60.00	29.983	.987	29.913
	14	O. Arg. S. 16256 .	. .	2	IV, VI.	148 9 61.4	59.0	58.3	55.8	53.6	59.3	57.90	30.323	.341	29.880
	15	B. A. C. 5809 .	. .	5	III-VII.	158 54 62.4	60.4	61.0	59.9	54.5	61.1	59.88	31.168	.189	. .
	16	ξ Ophiuchi	. .	1	V.	149 49 63.0	61.0	60.9	57.8	55.5	61.0	59.87	30.145	.162	. .
	17	B. A. C. 5966 . .	8.0	5	I-IX.	156 39 63.4	61.1	61.7	58.5	55.8	61.2	60.28	29.169	.199	. .
	18	β Sagittarii	6.0	5	III-VII.	" " "	"	"	"	"	"	"	33.731	.738	29.900
	19	O. Arg. S. 17340 .	9.0	1	V.	149 54 62.7	63.0	62.0	58.5	55.9	61.5	60.60	37.779	.782	. .
	20	Anon. 17h. 52m. 14s.	8.5	3	VI-IX.	166 54 63.4	61.8	63.1	60.8	56.3	61.4	61.13	31.689	.710	. .
	21	B. A. C. 6160 . .	7.0	5	I-IX.	157 49 63.0	62.1	62.1	59.2	56.0	61.7	60.35	35.814	.832	. .
	22	B. A. C. 6222 . .	. .	5	I-IX.	151 49 62.7	62.0	60.2	62.6	56.3	61.5	60.88	28.683	.697	29.902
	23	B. A. C. 6292 . .	. .	1	V.	147 54 65.0	63.0	64.4	59.5	57.1	63.5	62.08	36.682	.685	. .
	24	B. A. C. 6301 . .	. .	1	VIII.	" " "	"	"	"	"	"	"	28.015	.037	. .
	25	O. Arg. S. 18577 .	. .	5	I-IX.	148 14 60.1	57.2	58.1	53.8	51.8	56.2	56.20	26.619	.632	. .
	26	O. Arg. S. 18604 .	. .	1	IX.	" " "	"	"	"	"	"	"	22.054	.085	. .
	27	Victoria	. .	3	II-VIII.	136 24 59.9	60.5	58.0	54.5	54.5	59.5	57.82	35.850	.857	. .
	28	Eunomia	. .	1	V.	151 9 59.8	58.9	59.7	55.5	52.9	58.3	57.52	29.435	.446	. .
	29	δ Aquilæ	. .	5	I-IX.	126 4 60.7	59.9	59.0	54.5	54.5	59.2	57.97	35.749	.750	29.914
	30	O. Arg. S. 19909 .	. .	5	I-IX.	152 24 61.7	59.6	60.7	57.3	54.6	59.8	58.95	26.516	.535	. .
	31	α Aquilæ	. .	5	I-IX.	120 24 62.3	61.2	60.0	56.0	56.3	60.8	59.43	35.495	.500	. .
	32	Nadir 20h. . . .	. .	5	. .	269 59 61.6	60.2	60.0	57.6	56.3	63.0	59.87*d*	29.898	.909	. .
	33	O. Arg. S. 20423 .	. .	4	III-VII.	146 9 58.3	58.4	58.9	53.9	54.0	58.0	56.92	35.042	.058	29.919
	34	B. A. C. 7147 . .	. .	5	I-IX.	155 14 59.4	59.7	60.1	59.5	54.6	58.1	58.57	20.128	.156	. .
	35	B. A. C. 7205 . .	. .	5	I-IX.	" " "	"	"	"	"	"	"	42.944	.965	. .
	36	O. Arg. S. 21129 .	. .	5	I-IX.	151 44 59.3	61.0	61.8	57.8	56.1	59.5	59.25	31.196	.224	29.917
	37	ζ Capricorni . . .	. .	5	I-IX.	" " "	"	"	"	"	"	"	17.590	.606	. .
	38	Nadir 21h. 30m. .	. .	3	. .	269 59 59.3	59.0	58.2	56.4	54.8	61.0	58.12	29.843	.849	. .
Aug. 1	39	O. Arg. S. 16100 .	7.8	1	V.	157 54 60.5	57.6	58.4	54.5	52.0	58.0	56.83	30.500	.508	29.937
	40	Weisse XVI, 958 .	8.0	1	V.	132 59 62.2	60.0	59.7	56.8	55.5	62.1	59.38	28.960	.970	. .
	41	Anon. 16h. 56m. 17s.	9.0	1	V.	157 34 62.9	59.5	60.5	57.5	54.7	59.4	59.08	30.547	.553	. .
	42	Anon. 17h. 4m. 34s.	7.7	5	I-IX.	133 19 63.0	61.0	61.0	56.9	56.6	63.1	60.27	28.112	.139	. .
	43	Anon. 17h. 14m. 38s.	. .	5	III-VII.	160 24 63.6	59.9	63.5	57.1	55.9	60.6	60.10	29.871	.882	. .
	44	B. A. C. 1706, S. P.	. .	4	VII-IV.	23 49 62.7	61.1	65.4	60.8	58.7	62.5	61.87	25.849	.876	29.952
	45	ψ¹ Draconis, (Ref.) .	. .	3	III-V.	303 19 63.0	58.2	61.4	54.7	55.3	59.8	58.73	31.876	.901	. .
	46	ψ¹ Draconis	. .	3	VI-VIII.	56 39 61.0	58.5	63.0	58.6	57.8	65.1	60.67	28.008	.970	. .
	47	δ Ursæ Minoris, (Ref.)	. .	1	4.	317 39 61.5	58.0	60.5	52.3	55.0	58.5	57.63	26.210	.226	29.942
	48	Nadir 18h. 30m. . .	. .	3	. .	269 59 63.6	60.5	62.9	57.7	58.9	64.2	61.30*d*	29.950	.959	. .
	49	O. Arg. S. 18623 .	6.5	1	V.	149 59 63.0	60.3	62.5	57.6	55.9	59.8	59.85	29.799	.803	. .
	50	Lacaille 7873 . .	. .	1	VII.	168 9 63 1	60.5	64.1	59.4	56.6	59.6	60.55	31.905	.924	. .
	51	B. A. C. 6677 . .	8.0	5	III-VII.	157 19 62.6	60.9	63.0	58.5	55.9	60.0	60.15	28.067	.085	29.934
	52	O. Arg. S. 19880 .	7.5	1	V.	153 34 61.9	59.5	61.9	56.5	53.8	59.5	58.85	33.350	.365	. .
	53	β Aquilæ	. .	5	I-IX.	122 49 62.2	60.6	61.0	57.3	55.8	61.1	58.00	32.672	.672	. .
	54	Psyche	9.7	1	V.	147 9 63.0	60.2	62.1	57.2	55.9	60.6	59.83	27.317	.333	. .
	55	Neptune	. .	4	I-IX.	126 59 62.7	63.3	63.1	59.8	57.0	61.0	61.15	29.109	.124	29.839
	56	Nadir 0h. 45m. . .	. .	3	. .	269 59 62.4	62.7	63.9	61.9	57.5	63.4	61.97	29.980	.990	. .
2	57	Mercury, centre .	. .	5	III-VII.	115 4 60.9	64.1	61.4	60.2	57.6	63.1	61.22	29.162	.177	29.832
3	58	κ Ophiuchi	. .	5	I-IX.	119 14 60.8	59.5	57.6	56.9	52.5	58.9	57.70	24.803	.803	29.754
	59	ε Ursæ Minoris . .	. .	3	1-5.	46 39 61.1	60.2	64.5	62.4	57.5	61.9	61.27	32.145	.161	. .
	60	Nadir 17h. 10m. .	. .	3	. .	269 59 62.3	61.2	62.9	59.8	57.9	62.5	61.10	29.936	.945	. .
	61	B. A. C. 1706, S. P.	. .	5	VII-III.	23 49 61.6	63.0	66.0	64.0	58.4	61.1	62.35	25.775	.806	. .
	62	O. Arg. S. 17091 .	7.5	1	V.	152 9 61.7	61.0	63.1	59.8	55.3	60.3	60.20	32.625	.629	. .
	63	ω Draconis	. .	3	IV-VI.	60 4 60.0	58.4	63.4	60.2	56.4	62.5	60.15	30.665	.660	. .
	64	B. A. C. 6046 . .	6.5	5	III-VII.	163 14 61.6	61.5	63.8	60.2	55.5	59.7	60.38	26.974	.989	29.759
	65	δ Ursæ Minoris . .	. .	5	1-5.	42 19 59.5	62.2	65.0	63.1	58.0	61.5	61.55	33.575	.578	29.732

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	″ ′	′ ″	° ′ ″	° ′ ″	″		
1	83.5	80.1	29.918	+ 1 44.5	— 26.9	243 46 15.1	+ 12 39 54.3	— 1.3	Ha.	
2	. .	. .	. .	— 1 40.8	+ 26.9	116 13 43.1	+ 12 39 56.1			
3	. .	. .	. .	— 3 42.5	2 10.9	157 28 25.9	— 28 34 46.7	+ 1.9		
4	. .	. .	. .	+ 1 53.1	+ 12.3	282 37 2.4	+ 51 30 41.6	— 16.3		
5	83.0	79.2	. .	— 1 49.1	— 12.3	77 22 58.8	+ 51 30 40.4			
6										
7	. .	. .	. .	+ 7 17.7	+ 1 44.4	152 23 59.5	— 23 30 20.3	20.1		
8	82.5	78.2	. .	— 5 21.9	1 43.5	152 11 19.0	23 17 39.8	— 20.7		
9	. .	. .	. .	1 17.8	57.6	136 24 37.3	7 30 58.1			
10	82.0	77.5	. .	1 39.5	1 39.7	151 14 59.0	— 22 21 19.8			
11	79.0	74.3	. .	— 26.1	41.5	127 0 14.4	+ 1 53 24.8			
12	84.3	95.0	29.909	+ 1 15.8	16 4.6	110 32 20.5	18 21 18.7		D.	Through clouds. Of little value.
13	84.5	95.8	. .	— 2.4	20.1	113 5 17.7	+ 15 48 21.5			
14	84.2	84.0	. .	13.5	1 27.2	148 11 11.6	— 19 17 32.4	+ 20.9		
15	. .	. .	. .	40.1	2 19.7	158 56 39.4	30 3 0.2	18.7		Faint.
16	. .	. .	. .	— 7.9	1 33.3	149 51 25.2	20 57 46.0	13.3		
17	. .	. .	. .	+ 22.2	2 5.5	156 42 27.9	27 48 48.7	6.8		Faint.
18	84.0	82.0	. .	— 2 0.0	2 5.3	156 40 5.5	27 46 26.3	+ 3.7		
19	. .	. .	. .	4 6.7	1 33.5	149 52 27.4	20 58 48.2	— 1.3		1 rev. less than Argelander.
20	. .	. .	. .	56.4	3 49.3	166 57 54.0	38 4 14.8	0.0		Missed wire VIII.
21	. .	. .	. .	— 3 5.6	2 12.7	157 49 7.4	28 55 28.2	7.2		
22	83.5	81.0	. .	+ 38.0	1 41.6	151 52 20.4	22 58 41.2	13.1		
23	. .	. .	. .	— 3 32.3	1 26.7	147 52 56.4	18 59 17.2	18.2		
24	. .	. .	. .	+ 58.7	1 27.0	147 57 27.7	19 3 48.5	18.7		
25	. .	. .	. .	1 42.7	1 28.2	148 18 7.1	19 24 27.9	23.2		
26	. .	. .	. .	+ 4 5.2	1 28.3	148 20 29.7	19 26 50.5	23.8		
27	. .	. .	. .	— 3 6.4	57.3	136 22 48.7	7 29 9.5			Probably 5 rev. = 2′ 36″.7 too great.
28	. .	. .	. .	+ 14.5	1 39.0	151 11 51.0	— 22 18 11.8			Several small stars in the field.
29	82.7	80.0	. .	— 3 3.0	39.8	126 2 34.7	+ 2 51 4.5	44.4		
30	. .	. .	. .	+ 1 45.7	1 44.6	152 28 29.2	— 23 34 50.0	49.0		
31	. .	79.3	. .	— 2 55.2	32.1	120 22 36.3	+ 8 31 2.9	54.3		
32										Ver good.
33	82.2	78.0	. .	— 2 41.3	1 21.6	146 8 37.2	— 17 14 58.0	63.6		Missed wire VI.
34	. .	. .	. .	+ 5 5.6	1 59.2	155 22 3.3	26 28 24.1	70.5		
35	. .	77.1	. .	— 6 49.1	1 58.2	155 10 7.6	26 16 28.4	73.3		
36	81.7	75.0	. .	— 41.2	1 42.4	151 46 0.4	22 52 21.2	79.5		
37	. .	. .	. .	+ 6 25.5	1 43.2	151 53 7.9	22 59 28.7	— 85.1		
38										
39	85.5	85.9	29.921	— 18.4	2 12.5	157 56 50.9	29 3 11.7	+ 27.4	N.	
40	. .	. .	. .	+ 29.8	50.5	133 1 19.6	4 7 40.4	18.3		Error of 1′ in Weisse's reduction from B. Z.
41	. .	. .	. .	— 19.8	2 10.5	157 36 49.7	28 43 10.5	23.3		
42	. .	. .	. .	+ 55.8	51.2	133 21 47.2	4 28 8.0			C. R. recorded 153°.
43	. .	. .	. .	1.2	+ 2 31.1	160 27 32.4	— 31 33 53.2	15.9		
44	85.5	84.7	. .	+ 2 6.8	— 2 2.0	23 50 6.6	+ 74 56 27.3	+ 2.9		
45	. .	. .	. .	— 1 2.0	+ 35.8	303 19 32.5	72 13 11.8	— 14.2		
46	. .	. .	. .	+ 1 1.1	— 35.8	56 40 25.9	72 13 13.3			
47	. .	82.2	. .	1 55.8	+ 59.9	317 42 53.3	+ 86 36 32.5	25.1		
48										
49	. .	. .	. .	+ 3.7	1 34.2	150 1 37.7	— 21 7 58.5	23.9		
50	. .	. .	. .	— 1 2.8	4 13.2	168 13 10.9	39 19 31.7	22.7		
51	. .	81.5	. .	+ 57.5	2 10.0	157 23 7.6	28 29 28.4	42.9		
52	. .	. .	. .	— 1 47.9	1 49.3	153 35 0.2	— 24 41 21.0	48.0		
53	. .	. .	. .	— 1 26.2	35.2	122 49 7.0	+ 6 4 32.2	— 56.1		
54	. .	. .	. .	+ 1 21.1	1 24.6	147 12 45.5	— 18 19 6.3			
55	80.2	75.7	. .	25.0	41.4	127 1 7.5	+ 1 52 31.7			Missed wire III.
56										
57	84.0	89.8	29.912	23.0	22.3	115 5 46.5	13 47 52.7		Ha.	
58	81.0	75.2	. .	+ 2 40.1	+ 30.8	119 18 8.6	9 35 30.6	+ 14.3	N.	
59	. .	. .	. .	— 1 10.5	— 51.8	46 37 58.9	82 15 40.3	2.1		
60										
61	. .	74.7	. .	+ 2 8.7	— 2 3.6	23 50 7.4	+ 74 56 28.1	3.2		
62	. .	. .	. .	— 1 25.1	+ 1 43.8	152 10 18.9	— 23 16 39.7	+ 5.0		
63	. .	. .	. .	— 23.4	— 31.7	60 4 5.0	+ 68 49 34.2	— 12.1		Unsteady.
64	80.0	74.0	. .	+ 1 31.6	+ 3 0.8	163 19 32.7	— 34 25 53.5	+ 2.6		
65	79.0	74.0	. .	— 1 54.9	— 1 0.4	42 17 6.2	+ 86 36 33.0	— 25.5		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F	Mean.	Observed.	Correc'd.	
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. Aug. 3	1	α Lyræ	. .	5	I-IX.	90 14 62.3	64.0	65.0	62.0	58.4	63.6	62.55	32.323	.319	. .
	2	Lalande 34916	7.3	5	III-VII.	148 9 62.0	60.6	62.6	60.0	53.9	57.8	59.48	30.861	.870	. .
	3	γ Aquilæ	. .	4	I-VII.	118 34 62.0	61.6	60.5	59.7	54.7	59.6	59.68	28.443	.450	29.761
	4	β Aquilæ	. .	1	V.	122 49 62.2	62.9	63.1	61.9	55.6	61.5	61.20	32.711	.714	. .
	5	B. A. C. 6969	. .	1	V.	92 29 61.6	63.6	64.3	63.1	57.2	62.5	62.05	30.390	.403	. .
	6	B. A. C. 6992	6.5:	3	I-IX.	144 4 60.6	61.1	62.6	59.0	54.8	58.5	59.43	30.466	.485	. .
	7	β Capricorni	. .	3	II, V, IX.	“ “ “	“	“	“	“	“	“	30.787	.797	. .
	8	O. Arg. S. 20544	. .	5	I-IX.	152 9 62.7	62.1	65.0	62.3	56.1	61.0	61.53	31.324	.351	29.752
4	9	ξ Draconis	. .	5	III-VII.	71 59 61.1	63.0	63.3	62.9	58.9	64.5	62.28	30.133	.138	29.872
	10	Lalande 34916	8.0	5	III-VII.	148 9 60.8	61.2	61.7	59.2	54.1	57.4	59.07	30.872	.881	29.875
	11	ν^1 Sagittarii	6.0	1	V.	151 44 60.8	61.3	55.1	60.0	62.4	58.1	59.62	27.490	.499	. .
	12	Anon. 18h. 46m. 7s.	8.0	1	VII.	“ “ “	“	“	“	“	“	“	34.100	.122	. .
	13	ν^2 Sagittarii	7.0	1	VII.	“ “ “	“	“	“	“	“	“	35.651	.660	. .
	14	Lacaille 7962	7.0	5	III-VII.	167 14 60.0	62.4	63.3	61.4	56.0	58.0	60.18	27.567	.578	. .
	15	Lacaille 8045	8.5	1	V.	162 34 60.6	61.2	62.9	59.9	54.3	58.0	59.48	27.471	.481	. .
	16	B. A. C. 6607	6.5	1	V.	151 29 61.1	62.0	62.9	60.5	55.1	58.5	60.02	28.303	.319	. .
	17	α Aquilæ	. .	5	III-VII.	120 19 59.9	61.8	60.1	58.8	55.2	58.1	58.98	25.944	.952	29.872
	18	Nadir 19h. 56m.	. .	3	. .	269 59 61.5	62.6	57.2	61.0	62.8	61.4	61.08	29.936	.945	. .
	19	λ Ursæ Minoris	. .	3	V.	39 59 61.6	66.0	66.9	67.2	60.0	64.2	64.32	29.370	.384	29.884
	20	α Canis Majoris	. .	5	I-IX.	145 24 59.5	61.8	61.4	59.2	54.5	57.5	58.98	31.237	.262	30.003
5	21	Sun N. L.	. .	4	I-IV.	111 49 62.8	66.5	64.2	63.4	60.0	63.1	63.33	30.425	.417	. .
	22	Sun S. L.	. .	4	VI-IX.	112 19 58.8	61.9	59.0	58.2	56.5	58.3	58.78	27.124	.147	30.00
	23	Mercury	. .	5	I-IX.	117 9 60.0	62.8	. .	59.0	56.1	60.4	60.07	30.594	.593	29.99
	24	ξ Ophiuchi	5.0	1	VII.	149 49 61.5	60.9	62.4	59.4	55.8	60.1	60.02	30.191	.213	30.043
	25	B. A. C. 1706, S. P.	. .	4	IV-I.	23 49 60.4	61.9	64.3	62.0	58.0	60.3	61.15	25.710	.803	. .
	26	B. A. C. 5989	7.7:	5	III-VII.	152 29 61.8	61.2	62.7	59.5	55.9	60.7	60.30	32.614	.621	. .
	27	B. A. C. 6023	. .	1	V.	152 59 62.0	61.2	63.0	60.0	56.0	60.9	60.52	27.428	.440	30.042
	28	δ Ursæ Minoris	. .	5	III-VII.	42 19 59.1	61.3	63.5	60.9	58.5	61.4	60.78	33.589	.591	30.054
	29	O. Arg. S. 18315	9.0	1	V.	150 29 59.9	60.5	62.5	58.9	55.0	59.0	59.30	32.302	.318	. .
	30	α Lyræ	. .	4	V-IX.	90 14 60.3	62.7	62.6	59.5	58.0	62.9	61.00	32.290	.289	. .
	31	Nadir 19h. 30m.	. .	4	. .	269 59 60.0	61.7	61.2	59.0	57.0	61.0	59.98	29.906	.915	. .
	32	Anon. 19h. 36m. 29s.	7.0	1	V.	152 4 60.4	60.6	62.8	59.0	56.0	59.2	59.67	35.132	.149	30.064
	33	g Sagittarii	5.5:	5	III-VII.	144 44 60.9	61.5	61.0	56.6	56.4	58.5	59.15	33.734	.739	. .
	34	O. Arg. S. 20246	7.7	5	I-IX.	153 9 60.8	60.4	62.9	59.0	54.9	59.2	59.53	34.179	.207	. .
	35	Anon. 20h. 5m 15s.	9.0:	1	V.	143 4 61.2	63.5	63.1	60.0	56.1	60.2	60.68	32.253	.270	. .
	36	α^1 Capricorni	. .	1	I.	141 49 60.4	60.6	62.4	58.3	54.8	58.5	59.17	34.302	.329	. .
	37	α^2 Capricorni	. .	5	I-IX.	“ “ “	“	“	“	“	“	“	29.937	.951	30.065
8	38	Sun S. L.	. .	4	II-IV.	113 9 60.5	62.8	61.0	59.4	57.3	62.3	60.55	26.297	.292	. .
	39	Sun N. L	. .	4	VI-IX.	112 39 59.8	63.2	61.0	58.1	58.0	61.8	60.32	29.274	.298	30.1
9	40	Sun N. L.	. .	4	I-IV.	112 54 60.2	62.0	61.5	59.1	57.0	61.6	60.23	24.800	.783	30.060
	41	Sun S. L.	. .	4	VI-IX.	113 29 60.9	62.5	59.3	58.4	55.8	60.0	59.48	31.280	.303	. .
	42	ω Draconis	. .	5	III-VII.	60 4 60.3	59.0	62.4	58.2	57.9	64.1	60.32	30.767	.751	30.002
	43	δ Ursæ Minoris	. .	5	1-5.	42 19 60.1	60.9	63.2	60.0	58.8	62.1	60.85	33.623	.625	30.00
	44	α Lyræ	. .	5	III-VII.	90 14 60.4	61.0	60.0	57.1	57.0	62.2	59.62	32.273	.284	. .
	45	β Lyræ	. .	5	III-VII.	95 39 61.0	62.3	62.2	58.8	58.4	63.6	61.05	28.405	.413	30.00
	46	α Aquilæ, (Ref.)	. .	4	I-IV.	239 34 61.0	57.7	62.7	57.3	57.3	62.8	59.80	24.264	.285	. .
	47	α Aquilæ	. .	4	VI-IX.	120 19 60.8	60.3	58.9	55.8	55.4	59.0	58.37	25.930	.934	30.006
	48	Weisse XIX, 1319	8.0	5	III-VII.	143 9 60.6	60.0	59.6	56.3	55.2	58.2	58.32	28.353	.370	. .
	49	Nadir	. .	3	. .	269 59 62.1	60.0	60.1	57.3	56.5	61.6	59.60*d*	29.885	.895	. .
	50	Neptune	. .	5	III-VII.	127 4 62.0	63.0	61.6	59.7	56.5	61.1	60.65	33.145	.162	29.976
10	51	Sun S. L.	. .	4	I-IV.	113 44 61.5	62.8	60.0	58.9	57.5	62.0	60.45	26.302	.297	29.98
	52	Sun N. L.	. .	4	VI-IX.	113 14 60.9	61.2	59.2	57.0	56.8	60.2	59.22	29.414	.435	. .
	53	Mercury, centre	. .	1	V.	120 39 60.2	59.2	57.0	54.3	55.2	59.0	57.48	30.275	.292	29.972
	54	Nadir 18h. 25m.	. .	3	. .	269 59 60.0	56.8	57.1	52.7	55.0	60.0	56.93	29.798	.802	. .
11	55	Sun N. L.	. .	4	I-IV.	113 34 60.4	61.0	58.2	58.1	56.4	61.1	59.20	33.484	.472	29.982
	56	Sun S. L.	. .	4	VI-IX.	114 4 60.8	61.3	59.2	58.5	57.0	61.2	59.67	30.318	.342	. .
12	57	Sun S. L.	. .	4	I-IV.	114 24 61.1	62.2	60.0	58.7	56.6	61.6	60.03	34.030	.022	30.04
	58	Sun N. L.	. .	4	VI-IX.	113 49 61.1	62.5	59.9	59.0	57.0	60.8	60.05	27.530	.545	. .
	59	Venus, centre	. .	5	III-VII.	115 4 60.6	61.5	58.5	57.1	56.7	61.5	59.32	27.732	.733	30.040
	60	Mercury, centre	. .	1	V.	122 4 59.8	59.8	57.1	54.5	53.9	58.7	57.30	32.805	.809	30.02
	61	δ Ursæ Minoris	. .	5	1-5.	42 19 60.0	60.5	62.6	58.6	58.4	61.4	60.25	33.628	.629	30.02
	62	α Lyræ	. .	5	III-VII.	90 14 62.9	62.9	62.0	58.3	59.0	64.4	61.58	33.343	.352	. .
	63	β Lyræ	. .	5	III-VII.	95 39 63.6	63.1	64.1	59.8	60.2	65.1	62.65	28.433	.440	30.02
	64	β Aquilæ, (Ref.)	. .	4	I-IV.	237 9 62.4	57.9	61.1	57.7	57.0	63.4	59.92	27.094	.112	. .
	65	β Aquilæ	. .	4	VI-IX.	122 49 62.0	60.8	60.2	57.2	55.1	61.2	59.42	32.682	.683	30.06

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.912	− 1 15.4	+ 0.2	90 13 47.3	+ 38 39 51.9	− 30.9	N.	
2	. .	73.5	. .	− 30.0	1 28.4	148 10 57.8	− 19 17 18.6	26.1		
3	78.0	73.3	. .	+ 45.8	30.1	118 36 15.5	+ 10 17 23.7	53.4		Cloudy.
4	. .	. .	. .	− 1 27.8	35.6	122 49 9.0	6 4 30.2	56.2		Hardly visible
5	. .	. .	. .	15.4	2.4	92 29 49.0	+ 36 23 50.2	63.6		
6	. .	. .	. .	17.9	1 16.1	144 5 57.6	− 15 12 18.4	63.8		
7	. .	. .	. .	27.7	1 16.1	144 5 47.8	15 12 8.6	63.8		
8	77.5	72.3	. .	45.1	+ 1 44.2	152 11 0.6	− 23 17 21.4	66.4		
9	80.0	75.4	. .	7.1	− 17.9	71 59 37.2	+ 56 54 2.0	17.0	Ha.	
10	79.0	73.9	. .	− 30.4	+ 1 28.8	148 10 57.4	− 19 17 18.2	26.1		
11	. .	. .	. .	+ 1 15.6	1 42.6	151 47 57.8	22 54 18.6	27.3		
12	. .	. .	. .	− 2 11.9	1 42.4	151 44 30.1	22 50 50.9	27.4		
13	. .	. .	. .	− 3 0.1	1 42.3	151 43 41.8	22 50 2.6	27.7		
14	. .	. .	. .	+ 1 13.1	3 59.3	167 20 12.5	38 26 33.3	26.7		
15	. .	. .	. .	1 16.2	2 54.6	162 39 10.2	33 45 31.0	34.6		
16	. .	. .	. .	49.9	1 41.7	151 32 31.6	− 22 38 52.4	38.9		
17	78.0	71.8	. .	2 4.1	+ 32.5	120 22 35.5	+ 8 31 3.7	55.0		
18										
19	77.0	71.4	. .	+ 16.5	− 1 6.1	39 59 14.7	+ 88 54 24.5	− 58.9		
20	77.6	81.9	. .	− 42.3	+ 1 19.1	145 25 35.7	− 16 31 56.5	+ 14.8	N.	Blurred.
21	. .	. .	. .	− 15.8	18.6	111 50 6.1	+ 16 47 43.9			
22	79.7	87.4	. .	+ 1 26.6	19.1	112 21 44.4				Unsteady and blurred.
23	81.3	89.3	. .	− 21.3	24.6	117 10 3.3	+ 11 43 35.9			Circle div. under mic. C obliterated. + 0″.25 added to mean of microscopes A, B, E, F.
24	81.0	78.3	. .	− 9.4	+ 1 34.6	149 51 25.2	− 20 57 46.0	13.8		
25	. .	. .	. .	+ 2 8.8	− 2 4.0	23 50 5.9	+ 74 56 26.7	3.4		Steady.
26	. .	. .	. .	− 1 24.9	+ 1 45.6	152 30 21.0	− 23 36 41.8	4.2		
27	. .	77.2	. .	+ 1 17.5	+ 1 48.1	153 3 6.1	− 24 9 26.9	+ 1.9		
28	. .	76.4	. .	− 1 55.3	− 1 0.8	42 17 4.6	+ 86 36 34.6	− 26.0		
29	. .	. .	. .	1 15.4	+ 1 37.4	150 30 21.3	− 21 36 42.1	17.3		
30	. .	. .	. .	1 14.5	0.2	90 13 46.7	+ 38 39 52.5	31.3		Missed wire VII
31										
32	78.7	74.7	. .	2 44.1	1 44.2	152 3 59.7	− 23 10 20.5	48.7		
33	. .	. .	. .	1 59.9	1 18.4	144 44 17.6	15 50 38.4	55.1		
34	. .	. .	. .	2 14.6	1 49.2	153 9 34.1	24 15 54.9	57.9		
35	. .	. .	. .	1 13.9	1 13.8	143 5 0.5	14 11 21.3	60.9		
36	. .	. .	. .	2 18.4	1 10.6	141 48 51.3	12 55 12.1	62.8		
37	. .	74.0	. .	− 1.2	1 10.7	141 51 8.6	− 12 57 29.4	63.0		Clouds up.
38	. .	. .	29.908	+ 1 53.3	19.9	113 12 13.7	+ 15 57 13.0			Well defined.
39	81.7	90.0	. .	19.1	19.4	112 40 38.8				
40	84.0	90.0	. .	+ 2 40.6	19.6	112 58 0.4	15 39 51.1		Ha.	
41	. .	. .	. .	− 43.7	+ 20.1	113 29 35.8				
42	82.5	79.0	. .	26.4	− 31.7	60 4 2.2	68 49 37.0	13.4		
43	82.0	78.5	. .	1 56.5	− 1 0.4	42 17 3.9	86 36 35.3	27.0		
44	. .	. .	. .	− 1 14.4	+ 0.2	90 13 45.4	38 39 53.8	32.3		
45	82.0	78.0	. .	+ 46.8	+ 5.5	95 40 53.3	33 12 45.9	36.6		
46	. .	. .	. .	2 56.2	− 32.3	239 37 23.7	8 31 3.0	55.7		
47	81.0	77.5	. .	2 4.5	+ 32.3	120 22 35.1	+ 8 31 4.1	55.7		
48	. .	. .	. .	+ 48.2	1 13.6	143 12 0.1	− 14 18 20.9	56.7		
49										Looked for Ariadne, but it was too faint to observe.
50	78.0	73.6	. .	− 1 42.0	41.7	127 4 0.3	+ 1 49 38.9			
51	85.0	92.0	29.900	+ 1 52.9	20.2	113 47 13.5	15 22 15.7			
52	. .	. .	. .	+ 14.6	19.7	113 15 33.5				
53	87.0	94.4	. .	− 12.3	28.0	120 40 13.1	8 13 26.1			
54										
55	85.5	95.8	. .	1 51.9	19.9	113 33 27.2	15 4 22.5			
56	. .	. .	. .	13.8	20.4	114 5 6.2				
57	85.5	92.8	29.889	− 2 9.5	20.8	114 23 11.3	14 46 16.7			
58	. .	. .	. .	+ 1 13.4	20.3	113 51 33.7				
59	86.0	93.8	. .	+ 1 7.6	23.0	115 6 29.9	13 47 9.3			
60	87.0	95.1	. .	− 1 31.5	+ 29.6	122 3 55.4	6 49 43.8			
61	86.0	83.8	. .	1 57.2	− 59.8	42 17 3.2	86 36 36.0	27.7		
62	. .	. .	. .	− 1 17.2	+ 0.2	90 13 44.5	38 39 54.7	33.0		
63	85.5	82.6	. .	+ 45.4	+ 5.4	95 40 53.4	33 12 45.8	37.3		
64	. .	. .	. .	+ 1 27.0	− 35.3	237 10 51.6	6 4 30.9	− 57.6		
65	84.5	81.1	. .	− 1 27.5	+ 35.3	122 49 7.2	+ 6 4 32.0			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
Aug. 12	1	α^1 Capricorni	. .	1	V.	141 49 62.0	59.0	60.1	56.5	53.8	59.0	58.40	34.198	.215	. .
	2	α^2 Capricorni	. .	4	VI-IX.	“ “ “	“	“	“	“	“	“	29.866	.877	. .
	3	α Cygni, (Ref.)	. .	4	I-IV.	275 54 62.8	59.2	61.5	57.8	58.0	62.0	60.22	31.073	.112	. .
	4	α Cygni	. .	2	VIII, IX.	84 4 62.3	61.9	64.0	60.2	59.1	64.6	62.02	28.800	.765	30.032
	5	Nadir 20h. 50m.	. .	3	. .	269 59 62.6	60.0	60.6	57.9	56.5	62.0	59.93	29.880	.887	. .
13	6	Sun N. L.	. .	4	I-IV.	114 9 62.1	63.5	61.8	59.9	57.8	63.0	61.35	30.825	.808	30.096
	7	Sun S. L.	. .	4	VI-IX.	114 39 62.1	63.5	61.0	59.4	58.0	63.2	61.20	27.644	.656	. .
	8	Venus, centre	. .	5	III-VII.	115 29 61.9	62.9	59.4	57.2	57.4	63.0	60.30	27.135	.149	30.000
15	9	δ Ursæ Minoris	. .	3	. .	42 19 60.1	63.0	65.0	63.3	58.3	62.0	61.95	33.724	.685	30.094
	10	δ Ursæ Minoris, (Ref.)	. .	2	4, 5.	317 39 60.4	60.6	61.0	55.2	54.6	57.4	58.20	26.112	.130	. .
	11	α Lyræ	. .	5	III-VII.	90 14 60.9	62.0	61.5	59.8	56.5	61.6	60.39	32.306	.316	. .
	12	O. Arg. S. 18564	7.5	4	VI-IX.	149 19 60.1	59.8	60.5	58.0	52.6	56.0	57.83	33.240	.266	. .
	13	O. Arg. S. 18625	8.0	5	III-VII.	149 39 58.8	57.4	58.1	56.0	51.4	54.0	55.95	31.934	.946	30.094
	14	Nadir 19h. 55m.	. .	3	. .	269 59 61.2	59.8	60.8	59.0	55.7	60.6	59.52*d*	29.861	.867	. .
	15	Moon N. L.	. .	5	III-VII.	143 59 59.9	60.0	59.5	57.8	54.0	57.0	58.03	28.132	.149	30.090
17	16	Sun S. L.	. .	4	I-IV.	115 54 59.0	58.1	55.8	53.0	54.0	59.0	56.48	26.436	.426	29.972
	17	Sun N. L.	. .	4	VI-IX.	115 24 59.6	59.5	57.2	54.6	55.9	61.0	57.97	29.661	.673	. .
18	18	Nadir 7h. 30m.	. .	3	. .	269 59 61.6	61.8	61.4	59.8	57.0	60.6	60.37	29.879	.889	. .
23	19	Sun N. L.	. .	4	I-IV.	117 24 63.0	65.1	61.1	58.2	59.1	61.6	61.35	30.830	.813	30.136
	20	Sun S. L.	. .	4	VI-IX.	117 54 65.9	66.2	62.2	60.2	61.4	63.3	63.20	27.609	.624	. .
	21	Venus, centre	. .	5	III-VII.	120 4 63.0	65.8	61.0	58.9	60.5	63.0	62.03	35.121	.136	30.130
	22	δ Ursæ Minoris	. .	3	. .	42 19 64.0	68.0	68.1	65.9	65.1	67.0	66.35	33.862	.822	30.110
	23	α Lyræ	. .	5	III-VII.	90 14 62.0	65.8	62.1	61.4	60.2	64.9	62.73	32.416	.422	. .
	24	β Lyræ	. .	5	III-VII.	95 39 62.0	65.4	63.2	61.8	62.0	65.7	63.35	28.529	.531	30.106
	25	Nadir 21h. 0m.	. .	3	. .	269 59 62.3	65.0	63.3	62.1	61.0	63.8	62.92*d*	29.965	.975	. .
24	26	Sun S. L.	. .	4	I-IV.	118 14 62.0	65.0	60.0	59.4	58.6	63.7	61.45	26.492	.480	30.100
	27	Sun N. L.	. .	4	VI-IX.	117 44 63.0	67.0	60.8	60.6	60.1	63.9	62.57	29.709	.724	. .
	28	Venus, centre	. .	1	V.	120 29 61.9	63.8	60.4	59.1	59.5	62.0	61.12	28.195	.212	30.088
25	29	Sun N. L.	. .	4	I-IV.	118 4 60.8	61.1	58.2	57.5	57.1	61.1	59.30	28.153	.149	29.942
	30	Sun S. L.	. .	4	VI-IX.	118 39 60.5	62.1	58.0	57.5	57.0	60.3	59.23	34.489	.510	. .
	31	Nadir 10h. 40m.	. .	3	. .	269 59 60.0	59.0	59.5	56.2	57.7	61.4	58.97	29.839	.849	. .
26	32	Sun S. L.	. .	4	I-IV.	118 59 61.9	65.0	60.9	61.1	60.0	63.8	62.12	32.892	.878	29.944
	33	Sun N. L.	. .	4	VI-IX.	118 24 61.0	65.8	61.3	59.5	59.5	62.1	61.53	26.468	.490	. .
27	34	Sun N. L.	. .	4	I, IV, VI, IX.	118 49 61.0	64.0	60.0	59.0	58.0	62.0	60.67	34.005	.012	29.682
	35	Nadir 10h. 50m.	. .	3	. .	269 59 60.9	61.2	61.8	58.9	60.1	63.3	61.03	29.907	.917	. .
29	36	Sun N. L.	. .	4	I-IV.	119 29 60.6	65.5	61.5	59.9	58.1	60.6	61.03	29.033	.025	29.996
	37	Sun S. L.	. .	4	VI-IX.	119 59 61.8	65.6	63.0	61.0	60.1	61.1	62.10	25.668	.684	. .
	38	δ Ursæ Minoris	. .	5	. .	42 19 63.0	68.9	69.8	69.0	65.1	66.4	67.03	33.938	.890	29.954
	39	α Lyræ	. .	5	III-VII.	90 14 58.7	63.6	62.2	60.4	57.6	61.6	60.68	32.401	.408	. .
	40	Lacaille 7854	7.5	5	III-VII.	168 34 58.5	61.1	63.2	60.6	55.0	57.2	59.27	32.108	.130	. .
	41	β Lyræ	. .	3	III-VII.	95 39 58.6	64.9	64.8	62.0	59.7	62.3	62.05	28.538	.539	. .
	42	β Lyræ, (Comp.)	. .	2	VIII, IX.	“ “ “	“	“	“	“	“	“	27.307	.298	29.958
	43	O. Arg. S. 20339	8.5	1	VI.	144 39 58.0	63.5	60.6	58.6	56.1	57.0	58.97	36.362	.377	29.974
	44	B. A. C. 7049	7.0	5	III-VII.	151 39 58.0	63.3	62.8	60.9	55.3	57.1	59.57	26.108	.127	. .
	45	B. A. C. 7113	7.0	5	III-VII.	153 34 60.3	64.9	64.1	62.6	55.9	59.5	61.22	32.964	.977	. .
	46	O. Arg. S. 20819	7.5	1	V.	153 4 59.8	63.6	65.4	63.1	56.9	60.0	61.47	31.010	.022	. .
	47	B. A. C. 7244	7.0	5	III-VII.	153 39 60.0	64.0	64.0	62.3	56.1	59.1	60.92	32.057	.074	29.976
	48	O. Arg. S. 21053	7.5	1	V.	148 39 59.9	64.1	64.0	62.1	56.1	58.0	60.70	32.584	.589	. .
	49	f^2 Cygni	. .	1	V.	81 49 60.6	66.0	66.5	65.3	61.1	63.3	63.80	25.461	.471	29.976
	50	Nadir	. .	5	. .	269 59 61.0	65.8	65.3	65.1	59.9	63.0	63.35	29.993	.005	. .
30	51	Sun S. L.	. .	4	I-IV.	120 24 60.6	67.1	63.7	63.7	59.7	60.9	62.62	32.296	.291	30.054
	52	Sun N. L.	. .	4	VI-IX.	119 49 61.0	66.8	62.9	62.8	59.0	60.0	62.08	26.024	.050	. .
	53	Venus, centre	. .	5	III-VII.	123 24 61.5	67.5	65.4	64.8	60.8	62.2	63.70	26.411	.422	30.054
	54	O. Arg. S. 18198	. .	1	VII.	149 59 63.3	65.8	66.9	64.6	60.8	61.2	63.77	33.071	.092	30.062
	55	O. Arg. S. 18577	7.0	1	V.	148 14 60.5	62.0	64.0	60.6	57.0	57.4	60.25	26.819	.823	30.061
	56	O. Arg. S. 18604	7.3	1	V.	“ “ “	“	“	“	“	“	“	22.295	.311	. .
	57	Nadir 20h. 12m.	. .	4	. .	269 59 61.2	64.9	65.6	63.8	60.5	62.8	63.13	29.952	.962	. .
	58	B. A. C. 7111	. .	5	I-IX.	151 44 61.9	65.8	67.1	64.2	59.6	61.0	63.27	27.227	.255	30.079
31	59	55 Camelopardi, S. P.	. .	5	VII-III.	17 49 60.5	68.8	68.9	69.2	61.7	60.3	64.90	33.116	.152	30.134
	60	B. A. C. 7039	7.5	1	V.	153 19 59.5	65.4	65.0	63.3	57.0	58.3	61.42	14.994	.005	. .
	61	B. A. C. 7040	7.5	1	VII.	“ “ “	“	“	“	“	“	“	35.309	.331	. .
	62	Lacaille 8513	8.0	1	V.	164 59 59.0	64.6	63.3	64.4	57.1	58.1	61.08	17.821	.825	. .
	63	Lacaille 8540	7.5	1	V.	“ “ “	“	“	“	“	“	“	13.075	.090	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.889	— 2 15.6	+ 1 9.5	141 48 52.3	— 12 55 13.1	— 63.2	Ha.	
2	. .	. .	. .	+ 0.4	1 9.7	141 51 8.4	— 12 57 29.2	63.3		
3	. .	. .	. .	— 38.3	+ 5.7	275 54 27.6	+ 44 48 6.9	73.6		
4	84.0	80.6	. .	+ 35.2	— 5.7	84 5 31.5	44 48 7.7			
5										
6	86.5	93.3	. .	— 28.8	+ 20.6	114 9 53.1	14 27 56.5			
7	. .	. .	. .	+ 1 10.0	21.1	114 41 32.3				
8	87.5	94.5	. .	+ 1 25.8	+ 23.4	115 31 49.5	13 21 49.7			
9	80.5	76.8	. .	— 1 59.2	— 1 0.8	42 17 1.9	86 36 37.3	28.3		At 18h. 19m. 2s., 19m. 32s., and 20m. 2s.
10	. .	. .	. .	+ 1 57.6	+ 1 0.8	317 42 56.6	86 36 35.8			If record is correct the reflection observation must have been taken first.
11	. .	. .	. .	— 1 16.3	0.2	90 13 44.2	+ 38 39 55.0	33.6		
12	. .	. .	. .	1 46.0	1 33.1	149 19 44.9	— 20 26 5.7	22.7		
13	80.5	76.6	. .	— 1 4.7	+ 1 34.3	149 40 25.5	20 46 46.3	23.9		
14										Clouded up.
15	80.0	76.6	29.882	+ 54.3	— 31 12.7	143 29 39.6	— 14 36 0.4			
16	85.5	94.5	29.877	1 48.1	+ 22.3	115 57 6.8	+ 13 12 22.8			
17	. .	. .	. .	+ 6.4	21.8	115 25 26.1				
18										
19	78.0	81.5	29.882	— 29.2	24.6	117 24 56.7	11 12 51.3			Limb unsteady and undulating.
20	. .	. .	. .	+ 1 10.8	25.2	117 56 39.2				
21	79.0	82.6	. .	— 2 44.6	+ 29.2	120 2 46.6	8 50 52.6			Disc not defined at all. Observed through dense haze.
22	78.0	72.7	. .	2 3.4	— 1 1.3	42 17 1.6	86 36 37.6	30.0		At 18h. 19m. 10s., 19m. 40s., and 20m. 10s.
23	. .	. .	. .	— 1 19.6	+ 0.2	90 13 43.3	38 39 55.9	35.0		
24	77.5	72.1	. .	+ 42.3	5.6	95 40 51.2	33 12 48.0	39.3		Cloudy all the rest of the evening.
25										
26	79.0	84.5	. .	1 46.6	25.4	118 17 13.4	10 52 16.4			
27	. .	. .	. .	4.9	24.8	117 45 32.2				
28	79.5	85.5	. .	52.3	29.6	120 31 23.0	8 22 16.2			Through openings in clouds.
29	80.0	90.0	. .	+ 54.3	24.8	118 6 18.4	10 31 30.3			
30	. .	. .	. .	— 2 25.0	25.3	118 37 59.5				
31										
32	79.5	84.2	29.884	— 1 33.8	26.0	118 58 54.3	10 10 35.5			
33	. .	. .	. .	+ 1 46.3	25.4	118 27 13.2				
34	80.5	83.6	. .	— 2 9.3	16 18.3	119 4 9.6	9 49 29.6			
35										
36	77.5	79.8	29.898	+ 27.3	26.8	119 30 55.1	9 6 50.9			
37	. .	. .	. .	+ 2 12.0	+ 27.4	120 2 41.5				
38	75.0	69.1	. .	— 2 5.1	— 1 1.4	42 17 0.5	86 36 38.7	30.7		From 18h. 19m. 11s. to 21m. 11s.
39	. .	. .	. .	1 18.7	+ 0.2	90 13 42.1	+ 38 39 57.1	36.0		
40	. .	. .	. .	— 1 9.9	4 29.2	168 38 18.5	— 39 44 39.3	18.8		
41	. .	. .	. .	+ 42.6	5.6	95 40 50.2	+ 33 12 49.0	40.2		
42	74.5	68.0	. .	+ 1 21.5	5.6	95 41 29.1	+ 33 12 10.1	40.2		
43	72.5	65.3	. .	— 3 23.0	1 19.2	144 37 55.1	— 15 44 15.9	61.7		
44	. .	. .	. .	+ 1 58.2	1 44.4	151 43 42.1	22 50 2.9	65.6		
45	. .	. .	. .	— 1 36.5	1 53.0	153 35 17.7	24 41 38.5	68.3		
46	. .	. .	. .	35.2	1 50.7	153 6 16.9	24 12 37.7	71.3		
47	71.5	64.8	. .	1 8.2	1 53.5	153 40 46.2	24 47 7.0	73.8		
48	. .	. .	. .	1 24.3	+ 1 32.4	148 40 8.8	— 19 46 29.6	77.6		
49	71.0	64.0	. .	2 54.6	— 8.2	81 47 1.0	+ 47 6 38.2	84.6		Bar. and therm. read at 21h. 10m.
50										Impossible to get an accurate bisection, because the image is constantly moving about.
51	74.0	75.8	29.862	— 1 16.1	+ 28.2	120 24 14.7	8 45 17.4			
52	. .	. .	. .	+ 1 59.4	27.6	119 52 29.0				
53	75.0	76.7	. .	+ 1 47.8	33.8	123 27 25.3	+ 5 26 13.9			
54	73.0	67.5	. .	— 1 41.2	1 37.1	149 59 59.6	— 21 6 20.4	14.9	N.	
55	72.5	67.0	. .	+ 1 35.2	1 30.9	148 18 6.3	19 24 27.1	23.1		
56	. .	. .	. .	3 56.6	1 31.1	148 20 27.9	19 26 48.7	24.1		
57										
58	71.0	66.7	. .	+ 1 21.7	+ 1 44.8	151 48 9.7	— 22 54 30.5	— 67.5		
59	68.0	61.0	29.875	— 1 42.7	— 2 56.1	17 45 26.1	+ 68 51 46.8	+ 62.5	Ha.	
60	. .	. .	. .	+ 7 45.9	+ 1 54.2	153 29 41.5	— 24 36 2.3	— 64.7		
61	. .	. .	. .	— 2 51.0	1 53.4	153 19 3.8	24 25 24.6	64.8		
62	. .	. .	. .	+ 6 17.6	3 32.1	165 9 50.7	36 16 11.5	66.3		
63	. .	. .	. .	+ 8 45.9	+ 3 32.8	165 12 19.7	— 36 18 40.5	— 67.9		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ' "	"	"	"	"	"	"	r.	r.	in.
Aug. 31	1	σ^2 Ursæ Majoris, S. P.	. .	5	VII-III.	16 34 59.7	68.2	57.9	67.4	59.9	59.1	62.03	25.270	.306	30.14
	2	ζ Cygni	. .	5	III-VII.	99 14 59.9	68.8	66.0	67.0	60.3	61.8	63.97	34.249	.262	. .
	3	Lacaille 8787 . .	7.0	5	III-VII.	158 34 59.8	66.9	66.9	66.1	58.0	58.9	62.77	29.340	.359	30.142
	4	Nadir	. .	5	. .	269 59 59.1	66.3	65.0	65.2	60.1	61.1	62.80*d*	29.954	.964	. .
Sept. 1	5	Sun N. L. . . .	. .	4	I-IV.	120 34 59.4	65.0	61.3	61.7	58.4	59.4	60.87	28.952	.940	. .
	6	Sun S. L. . . .	. .	4	VI-IX.	121 4 60.5	66.9	63.0	63.7	60.4	61.2	62.62	25.621	.639	30.180
	7	Venus	. .	5	I-IX.	124 24 58.5	65.2	62.0	61.8	60.0	60.3	61.30	26.304	.318	30.163
	8	Mercury	. .	5	I-IX.	133 59 59.5	66.1	62.6	62.0	60.8	62.1	62.18	26.928	.938	30.149
	9	Polaris, S. P. . .	. .	5	4-2.	37 29 56.4	62.1	63.9	60.7	60.1	57.9	60.18	29.922	.931	. .
	10	α Virginis	. .	5	I-IX.	139 19 58.5	63.6	60.0	60.3	57.9	58.4	59.78	30.284	.305	30.139
	11	μ Aquilæ	. .	1	V.	121 49 58.2	62.5	60.9	59.6	57.0	58.4	59.43	35.343	.358	30.128
	12	Nadir 19h. 50m. . .	. .	3	. .	269 59 58.9	62.6	62.4	60.6	59.2	61.0	60.78	29.889	.896	. .
	13	λ Ursæ Minoris . .	. .	5	Near V.	39 59 58.0	64.0	64.9	65.0	60.2	62.4	62.42	29.455	.466	. .
	14	α^2 Capricorni . .	. .	5	III-VII.	141 49 58.9	62.6	62.2	59.8	56.7	58.0	59.70	29.984	.997	. .
	15	B. A. C. 7124 . .	. .	4	I-IV.	56 49 57.5	62.5	63.4	62.6	60.0	61.9	61.32	30.810	.740	. .
	16	B. A. C. 7124, (Ref.)	. .	4	VI-IX.	303 9 58.0	63.2	63.9	57.9	57.9	57.0	59.65	28.940	.023	30.130
	17	μ Aquarii	. .	4	I-IV.	138 24 59.9	65.8	63.0	62.0	60.0	59.8	61.75	36.289	.309	. .
	18	μ Aquarii, (Ref.) . .	. .	3	VII-IX.	221 39 59.7	61.9	65.1	63.6	58.4	62.9	61.93	33.165	.177	. .
	19	ζ Cygni	. .	4	I-IV.	99 14 59.4	67.0	64.6	63.6	60.9	61.3	62.80	34.178	.181	. .
	20	ζ Cygni, (Ref.) . .	. .	2	VII, IX.	260 44 59.1	63.8	63.9	62.6	60.1	61.6	61.85	25.676	.697	. .
	21	ζ Capricorni . . .	3.5	5	III-VII.	151 54 58.7	64.4	64.5	61.3	58.0	58.9	60.97	36.790	.797	30.138
	22	Lacaille 8839 . .	. .	1	V.	154 49 58.4	64.5	63.0	60.9	58.1	58.0	60.48	26.443	.454	. .
	23	ε Capricorni . . .	. .	5	I-IX.	148 54 58.8	64.0	62.8	61.0	57.2	56.2	60.00	27.806	.819	. .
	24	Lacaille 8934 . .	. .	5	III-VII.	156 49 59.1	65.2	64.2	62.1	59.3	58.8	61.45	23.892	.903	. .
	25	Lacaille 8947 . .	. .	3	IV-VI.	" " "	"	"	"	"	"	"	33.521	.530	. .
	26	B. A. C. 7665 . .	6.0	3	IV-VI.	147 24 58.6	64.2	63.5	60.6	57.4	58.0	60.38	29.858	.865	30.135
	27	Nadir 22h. 10m. . .	. .	4	. .	269 59 58.8	64.5	63.4	63.0	59.2	60.8	61.62	29.913	.921	. .
2	28	Sun S. L. . . .	. .	4	I-IV.	121 29 57.8	65.2	61.2	61.1	59.0	59.5	60.63	31.485	.474	30.116
	29	Sun N. L. . . .	. .	4	VI-IX.	120 59 58.0	65.9	60.4	60.9	58.2	59.1	60.42	34.717	.734	. .
	30	μ Aquilæ	. .	5	III-VII.	121 49 58.0	63.5	60.9	60.0	57.5	59.0	59.82	35.388	.400	30.068
	31	*f* Sagittarii	. .	3	III-VII..	148 59 57.9	62.0	60.8	58.4	54.9	55.2	58.20	35.743	.750	. .
	32	b^3 Cygni	. .	1	V.	92 29 57.8	64.9	63.0	63.1	58.5	61.8	61.52	30.602	.606	. .
	33	33 Cygni	. .	1	V.	72 44 58.1	65.0	64.0	63.5	60.1	62.0	62.12	31.261	.278	30.072
	34	Nadir	. .	3	. .	269 59 58.6	64.1	62.7	61.6	59.4	60.8	61.20	29.902	.909	. .
	35	α Equulei	. .	5	III-VII.	124 14 59.1	65.9	63.1	62.5	59.3	61.1	61.83	36.965	.974	30.062
	36	α Cephei	. .	4	VI-IX.	66 54 59.6	66.2	67.3	66.9	62.2	65.1	64.55	33.896	.858	. .
	37	β Aquarii	. .	5	III-VII.	135 4 59.3	67.0	63.2	62.8	59.9	61.3	62.25	35.068	.084	30.061
26	38	λ Ursæ Minoris . .	. .	1	V.	39 59 59.9	64.1	64.9	65.4	60.0	65.0	63.22	29.737	.740	. .
	39	B. A. C. 7181 . .	6.3	1	V.	156 14 58.1	60.2	58.9	59.0	54.7	57.3	58.03	33.936	.944	30.129
	40	Nadir 21h. 0m. . .	. .	4	. .	269 59 59.5	61.8	60.4	60.5	57.5	61.7	60.23	29.882	.891	. .
	41	ζ Cygni, (Ref.) . .	. .	3	III-VII.	260 44 59.5	60.8	62.0	62.0	58.5	62.8	60.93	25.520	.531	. .
	42	α Cephei, (Ref.) . .	. .	3	III-V.	293 4 58.3	61.5	61.2	59.3	56,5	60.1	59.48	25.801	.817	. .
	43	α Cephei	. .	3	VII-IX.	66 54 57.3	61.0	62.0	62.0	58.0	63.3	60.60	34.033	.988	30.136
	44	7 Piscis Australis . .	5.8	5	III-VII.	162 29 60.2	63.6	64.5	63.5	57.9	62.0	61.95	30.731	.739	. .
	45	45 Capricorni . . .	5.0	1	IX.	144 14 60.5	64.4	62.2	61.1	58.4	61.1	61.28	31.541	.560	. .
	46	γ Gruis	2.5	3	IV-VI.	166 49 59.9	64.0	63.5	64.9	58.0	60.5	61.80	30.869	.877	. .
	47	Lacaille 8981 . .	7.2	1	V.	158 34 57.7	61.4	61.5	60.5	55.4	57.8	59.05	33.357	.372	. .
	48	O. Arg. N. 23385 .	9.0	5	III-VII.	75 54 58.7	62.1	63.0	63.5	59.8	63.4	61.85	28.798	.792	. .
	49	ζ Cephei	. .	5	III-VII.	71 19 57.4	60.9	61.8	61.0	57.4	63.5	60.33	26.990	.989	. .
	50	O. Arg. S. 22146 .	. .	3	III-VII.	147 54 58.1	60.5	60.9	59.1	54.2	57.7	58.42	31.010	.025	30.123
	51	σ^1 Gruis	. .	5	I-IV.	170 4 58.5	62.8	63.4	62.5	56.3	58.9	60.40	29.804	.830	. .
	52	σ^2 Gruis	. .	4	II-VIII.	" " "	"	"	"	"	"	"	28.806	.824	. .
	53	O. Arg. N. 24533 .	9.0	1	V.	74 14 58.8	61.9	63.9	62.9	58.7	62.6	61.47	34.147	.164	. .
	54	α Pegasi, (Ref.) . .	. .	2	III, IV.	245 34 59.9	63.4	64.0	64.7	59.7	65.8	62.92	28.620	.626	. .
	55	α Pegasi	. .	3	VII-IX.	114 24 59.5	64.5	63.0	63.0	58.5	62.2	61.78	31.329	.336	30.116
	56	Nadir 22h. 15m. . .	. .	3	. .	269 59 59.1	62.0	60.5	61.6	57.1	61.8	60.35	29.887	.895	. .
27	57	Sun N. L. . . .	. .	4	I-IV.	130 29 59.5	62.6	58.5	60.1	56.2	60.5	59.57	26.396	.392	. .
	58	Sun S. L. . . .	. .	4	VI-IX.	131 4 58.9	62.4	57.8	58.6	56.1	59.1	58.82	32.169	.205	30.096
	59	24 Ursæ Minoris . .	. .	5	1-5.	41 54 58.9	61.9	61.2	60.2	60.0	65.0	61.20	29.292	.306	30.044
	60	α Lyræ	. .	5	I-IX.	90 14 59.1	61.8	59.1	57.7	58.5	64.5	60.12	32.464	.454	. .
	61	Nadir 18h. 45m. . .	. .	2	. .	269 59 58.7	59.7	57.2	56.7	57.3	62.8	58.73	29.852	.858	. .
	62	50 Draconis	. .	5	IV-VI.	53 39 59.2	61.1	61.4	60.3	59.7	64.8	61.08	34.733	.728	. .
28	63	ε Draconis	. .	5	III-V.	58 59 59.1	63.8	64.4	62.7	62.1	68.9	61.83	33.168	.170	. .
	64	ε Draconis, (Ref.) .	. .	4	VI-IX.	300 59 56.1	58.3	58.5	52.5	54.8	58.4	56.43	26.568	.639	30.191
	65	55 Camelopardi, S. P. .	. .	3	VI-IV.	17 49 57.9	61.5	62.6	61.5	58.2	60.7	60.40	33.294	.318	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	66.0	59.2	29.875	+ 2 23.2	− 3 9.9	16 34 15.3	+ 67 40 36.0	+ 77.6	Ha.	
2	. .	. .	. .	− 2 17.5	+ 9.3	99 12 55.7	+ 29 40 43.5	− 86.1		
3	66.0	59.4	. .	+ 16.2	2 25.3	158 37 44.2	− 29 44 5.0	81.6		
4										
5	. .	. .	29.870	29.1	28.7	120 35 58.7	+ 8 1 47.6		N.	
6	70.5	74.0	. .	2 12.6	29.4	121 7 44.6				
7	72.5	75.0	. .	1 51.3	35.3	124 27 27.9	+ 4 26 11.3			
8	72.8	76.0	. .	+ 1 31.9	+ 46.9	134 2 20.9	− 5 8 41.7			
9	. .	. .	. .	− 1.9	− 1 12.4	37 28 45.8	+ 88 35 6.0	− 80.5		
10	73.0	76.1	. .	13.6	+ 1 4.6	139 20 50.7	− 10 27 11.5	+ 85.7		
11	71.0	66.6	. .	− 2 52.0	+ 35.1	121 47 42.5	+ 7 5 56.7	− 51.9		
12										
13	. .	. .	. .	+ 12.7	− 1 7.5	39 59 7.6	+ 88 54 31.6	67.3		
14	. .	. .	. .	− 4.0	+ 1 12.1	141 51 7.8	− 12 57 28.6	63.3		Cloudy.
15	. .	. .	. .	− 27.3	− 37.2	56 48 56.9	+ 72 4 42.3	76.8		Very unsteady.
16	70.0	64.0	. .	+ 26.5	+ 37.2	303 11 3.3	+ 72 4 42.6			Fair.
17	. .	. .	. .	− 3 21.8	+ 1 3.9	138 22 43.9	− 9 29 4.7	76.0		
18	. .	. .	. .	1 43.6	− 1 3.9	221 37 14.4	− 9 29 6.3			
19	. .	. .	. .	− 2 15.1	+ 9.2	99 12 56.9	+ 29 40 42.3	86.4		
20	. .	. .	. .	+ 2 10.7	− 9.2	260 47 3.3	+ 29 40 42.6			Unsteady.
21	69.0	62.1	. .	− 3 37.0	+ 1 46.3	151 53 10.2	− 22 59 31.0	84.1		
22	. .	. .	. .	+ 1 47.0	2 1.1	154 53 48.5	26 0 9.3	85.1		
23	. .	. .	. .	1 4.2	1 34.5	148 57 38.7	20 3 59.5	87.4		
24	. .	. .	. .	+ 3 7.0	1 58.9	156 55 7.3	28 1 28.1	89.7		
25	. .	. .	. .	− 1 54.7	2 12.5	156 50 19.2	27 56 40.0	90.4		
26	68.5	61.2	. .	+ 0.2	1 29.3	147 26 29.8	− 18 32 50.6	93.8		
27										
28	72.0	77.2	. .	− 50.3	29.5	121 29 39.8	+ 7 39 50.9		Ha.	
29	. .	. .	. .	2 32.4	28.9	120 57 56.9				
30	71.0	64.2	. .	2 53.3	35.1	121 47 41.6	+ 7 5 57.6	51.7		
31	. .	. .	. .	3 4.2	1 33.9	148 58 27.8	− 20 4 48.6	49.5		
32	. .	. .	. .	23.1	2.5	92 29 40.9	+ 36 23 58.3	71.1		
33	69.5	63.1	. .	44.1	17.7	72 44 35.7	56 9 3.5	72.1		
34										
35	68.5	62.4	. .	3 42.6	+ 38.6	124 11 57.8	4 41 41.4	85.0		
36	. .	. .	. .	2 5.0	− 24.3	66 52 35.2	+ 62 1 4.0	87.9		
37	68.0	62.5	. .	− 2 43.4	+ 56.9	135 3 15.7	− 6 9 36.5	87.8		
38	. .	. .	29.888	+ 4.6	− 1 7.6	39 59 0.2	+ 88 54 39.1	73.1	N.	September 26. Image west 0s.4±. Level nearly correct.
39	66.0	62.3	. .	− 2 7.1	+ 2 9.3	156 15 0.2	− 27 21 21.0			
40										
41	. .	. .	. .	+ 2 16.5	− 9.3	260 47 8.1	+ 29 40 47.4	90.9		
42	. .	. .	. .	+ 2 7.6	+ 24.4	293 7 31.4	62 1 10.7	94.9		
43	65.5	60.2	. .	− 2 8.5	− 24.4	66 52 27.7	+ 62 1 11.5			
44	. .	. .	. .	26.7	+ 2 59.2	162 32 34.4	− 33 38 55.2	82.3		
45	. .	60.2	. .	52.4	1 19.2	144 15 28.0	15 21 48.8	89.0		
46	. .	. .	. .	31.0	3 59.4	166 53 30.2	37 59 51.0	85.8		Micrometer recorded 31r.
47	. .	. .	. .	− 1 49.2	+ 2 24.6	158 35 34.4	− 29 41 55.2	89.3		
48	. .	. .	. .	+ 34.3	− 14.4	75 55 21.7	+ 52 58 17.5	103.0		
49	. .	. .	. .	+ 1 30.8	− 19.3	71 21 11.8	+ 57 32 27.5	103.6		
50	65.0	59.1	. .	− 35.6	+ 1 31.3	147 55 54.1	− 19 2 14.9	97.4		
51	. .	. .	. .	+ 1.8	5 16.8	170 10 19.0	41 16 39.8	94.6		
52	. .	. .	. .	+ 33.3	+ 5 17.1	170 10 50.8	− 41 17 11.6	94.7		
53	. .	. .	. .	− 2 14.0	− 16.2	74 12 31.2	+ 54 41 8.0	106.6		
54	. .	. .	. .	+ 39.5	+ 26.1	245 35 16.3	14 28 55.6	107.1		Micrometer readings a little doubtful.
55	64.5	58.4	. .	− 45.4	26.1	114 24 42.4	+ 14 28 56.8			
56										
57	. .	. .	. .	+ 1 49.5	42.0	130 32 31.0	− 1 54 50.8			
58	70.0	75.4	. .	− 1 12.6	+ 42.8	131 4 29.0				
59	73.0	71.1	. .	+ 18.2	− 1 2.2	41 54 17.2	+ 86 59 22.0	34.9		
60	. .	. .	. .	− 1 20.4	+ 0.2	90 13 39.9	38 39 59.3	38.3		Steady.
61										
62	. .	69.7	. .	2 31.7	− 41.3	53 36 48.0	75 16 51.2	48.1		
63	. .	. .	. .	− 1 42.8	− 33.7	58 57 45.3	69 55 53.9	− 70.4		
64	72.0	71.0	. .	+ 1 41.8	+ 33.7	301 2 11.9	69 55 51.2			
65	. .	. .	. .	− 1 47.5	− 2 53.1	17 45 19.8	+ 68 51 40.6	+ 68.2		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ″ ″	″	″	″	″	″	″	r.	r.	in.
Sept. 28	1	b^3 Cygni	. .	4	III–VII.	92 29 59.2	62.7	60.4	61.5	59.0	64.9	61.28	30.736	.734	. .
	2	Nadir 20h. 20m.	. .	3	. .	269 59 59.5	60.5	59.3	58.2	58.0	63.1	59.77	29.872	.878	. .
	3	B. A. C. 7205	6.0:	1	VIII.	155 9 59.1	62.7	60.6	58.8	57.5	61.9	60.10	33.365	.394	30.196
	4	O. Arg. S. 20951	8.0:	1	V.	144 39 58.6	61.0	58.4	56.8	56.7	60.5	58.67	30.231	.248	. .
	5	Anon. 20h. 52m. 48s.	. .	5	III–VII.	164 34 58.4	61.4	61.1	59.4	58.1	61.7	60.02	34.353	.373	. .
	6	O. Arg. S. 21163	. .	1	V.	151 49 58.3	61.2	60.1	57.7	56.1	61.0	59.07	18.165	.182	. .
	7	B. A. C. 7347	. .	1	V.	" " "	"	"	"	"	"	"	23.564	.569	. .
	8	29 Capricorni	5.0	5	I–IX.	144 34 58.1	61.0	58.0	56.5	57.1	60.5	58.53	27.888	.901	. .
	9	O. Arg. S. 21441	8.0	1	V.	154 49 58.9	61.8	60.2	57.6	57.1	60.6	59.37	39.151	.168	. .
	10	Lacaille 8839	7.5	1	V.	" " "	"	"	"	"	"	"	26.321	.337	. .
	11	η Aquarii, (Ref.)	. .	3	I, III, IV.	230 19 58.8	59.5	61.4	60.6	58.0	65.0	60.55	32.677	.680	. .
	12	η Aquarii	. .	3	VII–IX.	129 39 59.0	62.9	58.5	58.6	57.7	61.5	59.70	27.108	.125	30.202
Oct. 4	13	α Cygni, (Ref.)	. .	5	III–VII.	275 54 58.5	59.6	59.3	59.1	58.9	61.4	59.47	30.747	.758	. .
	14	Nadir	. .	3	. .	269 59 59.2	61.8	60.4	60.6	58.9	62.0	60.48	29.909	.916	. .
6	15	Nadir 11h. 55m.	.	3	. .	269 59 59.7	63.0	59.9	60.8	60.3	63.8	61.25	29.857	.867	. .
7	16	Polaris, S. P.	. .	5	5–1.	37 29 57.5	61.5	61.8	60.1	59.2	61.1	60.20	29.520	.531	29.810
	17	α Bootis	. .	5	I–IX.	108 59 58.2	63.2	57.4	57.7	58.3	62.0	59.47	30.069	.075	29.773
	18	24 Ursæ Minoris	. .	5	1–5.	41 54 57.8	62.5	60.9	59.8	59.7	63.0	60.62	29.280	.298	29.666
	19	α Lyræ	. .	5	I–IX.	90 14 57.7	61.0	58.0	57.0	57.9	62.7	59.05	32.431	.423	. .
	20	51 (Hev.) Cephei, S. P.	. .	1	V.	36 9 57.5	60.5	60.6	59.3	58.9	60.9	59.62	31.523	.530	. .
	21	50 Draconis	. .	5	III–VII.	53 34 58.4	61.5	60.9	60.0	59.2	64.4	60.73	25.146	.163	. .
	22	Anon. 19h. 16m. 24s.	. .	1	V.	152 19 59.0	60.8	59.0	58.1	56.7	60.5	59.02	34.220	.237	29.652
	23	Anon. 19h. 23m. 34s.	. .	1	V.	" " "	"	"	"	"	"	"	40.365	.380	. .
	24	O. Arg. S. 19715	. .	1	V.	148 44 59.1	60.0	57.6	56.7	54.9	58.0	57.72	32.630	.633	. .
	25	O. Arg. S. 19732	. .	1	V.	" " "	"	"	"	"	"	"	31.209	.226	. .
	26	Lacaille 8186	6.7:	1	V.	165 49 60.5	62.9	60.9	60.9	58.4	62.7	61.05	36.471	.481	. .
	27	O. Arg. S. 20030	7.5	1	V.	152 19 60.8	62.5	61.0	59.7	58.4	62.4	60.80	26.592	.596	. .
	28	g Sagittarii	5.0	5	I–IX.	144 44 60.1	62.0	59.2	56.6	57.6	61.5	59.50	33.654	.664	29.644
	29	Weisse XIX, 1512	8.0	1	V.	143 29 59.9	62.2	60.6	58.5	57.8	61.6	60.10	28.240	.257	. .
	30	α^2 Capricorni	. .	5	I–IX.	141 49 60.4	62.3	61.0	58.7	57.9	61.3	60.27	39.955	.970	. .
	31	B. A. C. 7034	7.3	5	III–VII.	154 54 60.0	62.0	60.7	58.2	57.7	62.0	60.10	30.753	.760	. .
	32	ω^2 Cygni	3.8	1	V.	80 24 58.5	62.8	61.7	59.6	60.2	65.0	61.30	32.867	.873	. .
	33	B. A. C. 7147.	. .	1	V.	155 19 58.6	62.0	60.9	58.2	56.0	60.6	59.38	29.693	.696	. .
	34	α Cygni	. .	1	V.	84 4 58.5	60.9	61.0	59.9	58.9	63.6	60.47	29.094	.110	. .
	35	Lacaille 8608	. .	1	V.	160 49 59.5	60.9	62.5	59.1	56.0	59.6	59.60	25.896	.903	29.631
	36	B. A. C. 7290	. .	1	V.	84 59 58.8	62.3	63.2	61.8	60.7	65.9	62.12	36.584	.589	. .
	37	Radcliffe 5050	. .	1	V.	" " "	"	"	"	"	"	"	30.290	.306	. .
	38	σ Ursæ Majoris, S. P.	. .	1	V.	16 34 58.8	61.5	61.9	59.3	56.7	59.5	59.62	25.722	.725	. .
	39	ζ Cygni, (Ref.)	. .	3	III–VII.	260 44 59.0	60.6	59.9	59.3	57.9	63.0	59.95	25.456	.473	. .
	40	45 Capricorni	6.2	5	III–VII.	144 14 58.6	62.2	59.8	58.0	56.9	59.8	59.22	31.368	.384	29.618
	41	B. A. C. 7630	7.5	5	III–VII.	144 44 59.4	62.0	59.6	57.0	57.7	60.3	59.33	28.296	.314	. .
	42	Lacaille 8993	7.3:	5	III–VII.	163 19 60.8	64.0	63.[illegible]	61.8	59.0	62.3	61.85	31.173	.195	. .
	43	λ Gruis	3.0:	1	V.	168 59 60.6	62.5	63.4	62.0	56.8	61.2	61.08	28.705	.708	. .
	44	O. Arg. N. 23452	7.0:	3	IV–VI.	76 14 59.5	63.1	63.7	62.5	61.4	64.5	62.45	30.651	.650	. .
	45	Nadir 22h. 15m.	. .	3	. .	269 59 57.7	60.2	58.2	57.6	57.1	60.6	58.57	29.826	.837	. .
	46	σ^1 Gruis	. .	1	V.	170 4 58.7	61.9	62.2	59.9	56.6	59.0	59.72	29.394	.407	29.603
	47	σ^2 Gruis	. .	1	V.	" " "	"	"	"	"	"	"	28.371	.385	. .
8	48	Sun N. L.	. .	4	I–IV.	134 44 58.5	65.5	61.6	63.3	56.8	60.5	61.03	25.585	.604	. .
	49	Sun S. L.	. .	4	VI–IX.	135 19 58.2	64.7	61.2	62.1	57.7	60.4	60.72	31.134	.141	29.695
10	50	Nadir 18h. 25m.	. .	1	. .	269 59 57.1	61.2	58.5	59.5	58.1	58.5	58.82	28.977	.988	. .
	51	α Lyræ	.	5	I–IX.	90 14 58.0	63.6	60.0	60.1	59.6	60.2	60.25	31.615	.599	. .
	52	50 Draconis	. .	5	IV–VI.	53 34 57.5	63.2	61.3	61.8	59.4	60.4	60.60	24.247	.256	29.898
	53	δ Draconis	. .	5	III–VII.	61 29 58.7	63.0	62.1	61.7	60.1	61.9	61.25	32.400	.395	. .
	54	B. A. C. 6677	8.0:	5	III–VII.	157 19 58.0	62.7	60.3	61.4	58.2	57.5	59.68	27.298	.318	. .
	55	9 Vulpeculæ	6.7	1	V.	109 24 58.6	64.2	59.0	59.8	58.9	59.0	59.92	30.669	.672	. .
	56	O. Arg. S. 19909	8.5	5	I–IX.	152 24 58.0	62.5	61.2	60.7	57.9	58.5	59.80	25.817	.832	. .
	57	Lacaille 8231	. . :	5	III–V II.	166 54 58.1	63.4	62.2	62.5	59.5	57.7	60.57	26.793	.803	. .
	58	B. A. C. 6814	6.5	1	V.	153 9 58.8	62.5	61.4	60.6	57.8	58.2	59.88	32.698	.701	. .
	59	g Sagittarii	5.2	5	III–VII.	144 44 58.0	62.4	59.1	57.8	58.4	57.5	58.87	32.888	.897	29.912
	60	55 Camelopardi, S. P.	. .	5	VII–III.	17 49 57.8	63.6	63.3	63.7	59.1	58.1	60.93	32.348	.383	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	70.4	29.888	− 26.5	+ 2.5	92 29 37.2	+ 36 24 2.0	− 75.2	N.	Missed wire VI.
2										
3	72.0	70.1	. .	1 49.8	2 0.9	155 10 11.2	− 26 16 31.9	69.6		
4	. .	. .	. .	11.3	1 19.3	144 41 6.6	15 47 27.4	74.8		
5	. .	. .	. .	− 2 20.5	3 20.7	164 36 0.2	35 42 21.0	70.6		
6	. .	. .	. .	+ 6 6.7	1 45.3	151 57 51.0	23 4 11.8	77.2		
7	. .	. .	. .	3 18.0	1 45.1	151 55 2.1	23 1 22.9	77.4		
8	. .	. .	. .	+ 1 2.3	1 19.2	144 37 20.0	15 43 40.8	81.2		
9	. .	68.8	. .	− 4 50.8	1 59.1	154 47 7.6	25 53 28.4	82.8		
10	. .	. .	. .	+ 1 51.3	+ 1 59.7	154 53 50.3	26 0 11.1	82.8		
11	. .	. .	. .	− 1 27.5	− 46.9	230 17 46.1	0 48 34.6	102.2		
12	71.0	67.9	. .	+ 1 26.6	+ 46.9	129 42 13.2	− 0 48 33.9			
13	. .	. .	. .	− 26.8	+ 5.8	275 54 38.5	+ 44 48 17.8	85.6		
14										Vertical wires of reticule bent by damp. On beginning next observation the horizontal wires were found to adhere to them, and work had to be suspended.
15										
16	72.0	72.9	29.877	+ 10.8	− 1 11.9	37 28 59.2	88 35 20.0	− 92.9		October 5 and 6. New wires were put in, and the instrument was again ready for use before the transit of the sun on October 7, civil time.
17	72.5	74.4	. .	− 6.2	+ 19.0	109 0 12.2	19 53 27.0	+ 71.6		
18	72.5	69.9	. .	+ 18.1	− 1 1.6	41 54 17.1	86 59 22.1	− 34.8		
19	. .	. .	. .	− 1 19.8	+ 0.2	90 13 39.4	38 39 59.8	− 38.4		After the Nadir, screwed eye-piece up tighter to adjust inclination of wires.
20	. .	. .	. .	− 51.8	− 1 15.8	36 7 52.0	87 14 12.8	+ 40.1		
21	. .	. .	. .	+ 2 27.7	− 40.9	53 36 47.5	+ 75 16 51.7	− 48.6		
22	71.7	66.8	. .	− 2 16.6	+ 1 45.5	152 19 27.9	− 23 25 48.7	38.6		
23	. .	. .	. .	5 29.1	1 45.3	152 16 15.2	23 22 36.0	41.5		
24	. .	. .	. .	1 26.3	1 31.4	148 45 2.7	19 51 23.5	43.8		
25	. .	. .	. .	42.3	1 31.4	148 45 46.8	19 52 7.6	44.3		
26	. .	. .	. .	− 3 26.9	3 35.8	165 50 9.9	36 56 30.7	40.6		
27	. .	. .	. .	+ 1 42.8	1 46.0	152 23 29.6	23 29 50.4	49.8		
28	. .	66.0	. .	− 1 58.7	1 18.6	144 44 19.4	15 50 40.2	54.8		
29	. .	. .	. .	+ 50.7	1 15.2	143 32 6.0	14 38 26.8	59.0		
30	. .	. .	. .	− 2.9	1 10.8	141 51 8.1	12 57 28.9	63.0		
31	. .	. .	. .	27.7	+ 1 58.4	154 56 30.8	− 26 2 51.6	61.9		
32	. .	. .	. .	− 1 33.9	− 9.4	80 23 18.0	+ 48 30 21.2	83.2		
33	. .	. .	. .	+ 5.7	+ 2 0.7	155 22 5.7	− 26 28 26.5	66.4		
34	. .	. .	. .	24.0	− 5.8	84 5 18.6	+ 44 48 20.6	86.1		
35	70.3	65.4	. .	+ 2 4.5	+ 2 39.2	160 54 43.3	− 32 1 4.1	68.3		
36	. .	. .	. .	− 3 30.3	− 4.9	84 56 26.9	+ 43 57 12.3	90.7		
37	. .	. .	. .	− 13.4	4.8	84 59 43.9	43 53 55.3	− 90.8		
38	. .	. .	. .	+ 2 10.1	3 4.4	376 34 5.3	67 40 26.1	+ 87.3		Tremulous and blurred.
39	. .	. .	. .	+ 2 18.0	− 9.0	260 47 8.9	+ 29 40 48.2	− 92.2		
40	. .	66.0	. .	− 47.2	+ 1 17.3	144 15 29.3	− 15 21 50.1	88.5		Thermometer assumed to be 1° too great.
41	. .	. .	. .	+ 49.0	1 18.8	144 47 7.1	15 53 27.9	91.0		
42	. .	. .	. .	− 41.3	3 3.9	163 22 24.4	34 28 45.2	87.1		
43	. .	. .	. .	+ 36.6	+ 4 38.2	169 5 15.8	− 40 11 36.6	86.6		
44	. .	. .	. .	− 24.2	− 13.7	76 14 24.5	+ 52 39 14.7	105.8		
45										
46	69.5	64.5	. .	+ 14.7	+ 5 7.9	170 10 22.3	− 41 16 43.1	92.7		
47	. .	. .	. .	46.7	5 8.1	170 10 54.5	41 17 15 3	92.8		After this observation adjusted wires for horizontality.
48	. .	. .	29.025	+ 1 47.2	50.4	134 47 38.6	− 6 10 2.9			
49	64.0	56.2	. .	− 1 6.3	51.4	135 19 45.8				Image very bad.
50										High wind. Image very difficult to see.
51	. .	. .	. .	− 1 20.7	+ 0.2	90 13 39.7	+ 38 39 59.5	38.2		
52	58.0	55.6	. .	+ 2 29.4	− 42.3	53 36 47.7	75 16 51.5	48.5		
53	. .	. .	. .	− 1 45.6	− 31.3	61 27 44.3	+ 67 25 54.9	57.8		
54	. .	53.0	. .	+ 0 53.4	+ 2 17.4	157 23 10.4	− 28 29 31.2	39.6		
55	. .	. .	. .	− 0 51.6	20.4	109 24 28.7	+ 19 29 10.5	57.4		
56	. .	. .	. .	+ 1 40.0	1 50.9	152 28 30.7	− 23 34 51.5	46.4		
57	. .	. .	. .	+ 1 9.6	4 4.3	167 0 14.4	38 6 35.2	42.9		
58	. .	. .	. .	− 1 55.2	1 53.9	153 9 58.5	24 16 19.3	49.9		
59	56.5	51.0	. .	2 1.3	+ 1 21.7	144 44 19.2	− 15 50 40.0	− 54.4		
60	. .	. .	. .	− 1 42.1	− 2 58.6	17 45 20.2	+ 68 51 41.0	+ 70.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
Oct. 10	1	O. Arg. S. 20443	9.0	1	V.	151 39 57.8	62.9	61.1	60.4	57.3	57.9	59.57	32.626	.629	- -
	2	Anon. 20h. 20m. 11s.	9.3	1	V.	164 39 59.7	65.3	63.3	63.4	60.7	60.4	62.13	31.836	.841	- -
	3	ω^2 Cygni	5.8	1	V.	80 24 58.5	65.6	63.4	63.3	62.4	63.4	62.77	32.016	.028	- -
	4	η Cephei	- -	4	I–IV.	67 34 57.2	63.1	62.2	62.6	60.0	62.2	61.22	29.589	.579	- -
	5	η Cephei, (Ref.)	- -	4	VI–IX.	292 24 57.0	62.2	59.6	57.5	58.7	62.5	59.58	28.419	.445	- -
	6	ζ Cygni, (Ref.)	- -	3	III–VII.	260 39 58.6	62.9	61.7	62.1	61.1	61.6	61.33	14.997	.013	- -
	7	α Cephei, (Ref.)	- -	3	III–V.	293 4 58.5	63.5	61.5	60.5	58.9	59.2	60.35	24.866	.897	- -
	8	α Cephei	- -	4	VI–IX.	66 54 58.8	65.1	64.4	64.0	62.4	64.2	63.15	33.333	.271	29.940
	9	ζ Pegasi	- -	1	V.	118 44 59.1	64.8	59.5	61.2	58.4	59.5	60.42	28.512	.520	- -
	10	ζ Pegasi, (Ref.)	- -	2	VIII, IX.	241 14 58.6	62.4	62.4	62.3	60.0	62.0	61.28	29.589	.561	29.961
	11	λ Aquarii, (Ref.)	- -	4	I–IV.	222 44 58.2	61.6	62.2	62.5	57.5	61.1	60.52	19.994	.032	- -
	12	λ Aquarii	- -	4	VI–IX.	137 9 58.5	64.3	60.6	60.6	59.4	58.4	60.30	28.504	.485	- -
	13	B. A. C. 8026, (Ref.)	- -	3	- -	314 44 58.0	61.9	60.2	58.3	58.6	57.0	59.00	32.695	.760	29.966
	14	Nadir 23h.	- -	3	- -	269 59 58.9	64.5	61.6	62.4	60.6	60.3	61.38	29.054	.068	- -
	15	β Ursæ Majoris	- -	5	III–VII.	71 44 60.0	68.5	65.2	65.9	64.0	64.1	64.62	23.856	.850	30.136
11	16	δ Ursæ Minoris	- -	5	2½–5.	42 19 58.2	64.9	62.4	61.0	62.7	62.2	61.90	32.850	.853	30.084
	17	1 Aquilæ	- -	5	I–IX.	137 14 58.6	64.2	58.8	57.7	59.1	59.2	59.60	33.665	.671	- -
	18	α Lyræ	- -	5	I–IX.	90 14 58.4	64.0	59.9	59.0	61.4	62.3	60.83	31.595	.580	- -
	19	50 Draconis	- -	5	III–VII.	53 39 58.6	63.5	62.0	61.2	62.5	62.6	61.73	33.843	.819	30.086
	20	Nadir 20h. 25m.	- -	3	- -	269 59 58.3	63.5	60.0	59.9	61.0	61.1	60.63	29.014	.024	- -
	21	Lacaille 8537	- -	5	I–IX.	158 44 57.9	64.5	61.9	61.0	59.1	58.7	60.52	29.021	.049	30.088
	22	Lacaille 8616	6.5	5	I–IX.	157 19 57.9	63.5	60.2	60.9	59.6	58.6	60.12	34.264	.294	- -
	23	Lacaille 8658	8.0	5	I–IX.	158 29 58.0	65.0	62.2	61.8	59.1	59.1	60.87	29.934	.957	- -
	24	3 Piscis Australis	- -	5	I–IX.	156 59 59.5	65.0	62.0	61.1	61.1	59.9	61.43	26.394	.420	- -
	25	Lacaille 8777	7.0	1	V.	155 49 59.1	65.0	61.1	61.1	60.7	59.1	61.02	37.033	.046	30.088
	26	Anon. 21h. 33m. 37s.	7.5	1	V.	161 59 58.0	64.8	62.1	62.0	59.1	59.8	60.97	30.822	.826	- -
	27	Lacaille 8889	7.0	1	V.	" " "	"	"	"	"	"	"	33.186	.203	30.090
	28	B. A. C. 7872	7.0	1	V.	161 14 58.3	64.5	63.6	61.9	58.4	59.4	61.02	34.012	.024	30.092
	29	Anon. 22h. 29m. 4s.	8.0	1	VIII.	" " "	"	"	"	"	"	"	36.395	.392	- -
	30	Nadir 22h. 55m.	- -	3	- -	269 59 58.4	64.9	60.8	63.0	60.0	62.0	61.52	29.051	.061	- -
12	31	ε Pegasi	- -	4	I–IV.	119 39 57.5	62.3	59.2	59.1	57.0	58.9	59.00	33.910	.944	- -
	32	ε Pegasi, (Ref.)	- -	4	VI–IX.	240 24 57.7	63.0	63.2	62.5	60.6	62.1	61.52	33.683	.660	29.811
	33	Nadir 22h. 55m.	- -	5	- -	269 59 58.1	62.8	61.0	61.0	59.7	60.1	60.45	29.013	.024	- -
	34	32 Ursæ Majoris, S. P.	- -	3	VI–IV.	14 44 58.2	65.0	64.0	64.3	59.6	59.4	61.75	31.318	.341	29.808
	35	B. A. C. 3528, S. P.	- -	1	V.	32 9 57.5	63.8	62.2	64.0	58.9	60.2	61.10	30.050	.064	- -
	36	56 Aquarii	- -	5	I–IX.	144 9 58.1	64.0	61.5	61.4	58.6	58.2	60.30	31.526	.540	- -
	37	B. A. C. 7872	- -	3	I–IX.	161 9 59.4	65.0	65.6	62.8	59.0	59.0	61.80	24.426	.458	- -
	38	Anon. 22h. 29m. 0s.	- -	2	III, VII.	" " "	"	"	"	"	"	"	26.805	.818	- -
	39	O. Arg. N. 24533	- -	1	V.	75 14 58.6	64.2	64.9	65.0	61.0	62.2	62.65	33.460	.470	- -
	40	B. A. C. 7953	7.0	1	V.	71 9 58.5	64.0	63.0	63.9	61.0	63.4	62.30	34.016	.028	- -
	41	Lalande 45545	- -	1	V.	145 9 57.7	63.2	60.9	59.3	58.2	57.5	59.47	28.880	.886	29.813
	42	97 Aquarii	6.0:	1	V.	144 39 58.7	64.2	60.9	60.7	58.9	58.5	60.32	30.968	.978	- -
	43	B A. C. 8172	- -	5	I–IX.	165 9 59.4	64.2	63.1	63.1	58.0	59.6	61.23	34.225	.260	- -
	44	Lacaille 9524	7.3	5	III–VII.	164 39 58.5	64.6	63.0	63.4	59.0	58.8	61.22	29.241	.263	- -
	45	A^1 Aquarii	6.3	5	III–VII.	147 39 57.6	62.0	62.0	60.7	56.7	56.6	59.27	32.033	.049	29.817
	46	B. A. C. 8314	- -	3	III–V.	55 14 57.5	63.4	63.9	64.8	60.2	60.8	61.77	29.825	.820	- -
	47	B. A. C. 8314, (Ref.)	- -	2	VI, VII.	304 44 57.4	62.2	61.3	59.8	57.8	57.1	59.27	28.239	.269	- -
	48	Mercury, centre	- -	2	VIII, IX.	128 29 57.1	65.8	59.9	62.5	57.5	58.1	60.15	34.262	.270	29.870
13	49	Sun N. L.	- -	2	III, IV.	136 39 57.1	67.1	60.1	62.8	59.6	58.1	60.80	29.269	.296	29.860
	50	Sun S. L.	- -	4	VI–IX.	137 14 57.4	66.4	60.5	61.8	58.0	56.8	60.15	34.760	.754	- -
	51	α Lyræ	- -	5	I–IX.	90 14 57.3	64.0	60.5	61.0	58.6	60.0	60.23	31.604	.588	- -
	52	α^1 Capricorni	- -	1	V.	141 49 57.0	64.7	62.0	62.0	57.2	57.1	60.00	33.515	.523	29.868
	53	α^2 Capricorni	- -	5	I–IX	" " "	"	"	"	"	"	"	29.172	.195	- -
	54	B. A. C. 7079, (N. *)	8.0	5	I–IX.	118 4 57.1	63.6	57.9	60.0	56.0	56.6	58.53	30.110	.121	- -
	55	B. A. C. 7079, (S. *)	8.0	4	II–VIII.	" " "	"	"	"	"	"	"	30.217	.231	- -
	56	ε Delphini	6.0	3	IV–VI.	" " "	"	"	"	"	"	"	34,614	.618	- -
	57	ε Aquarii	6.5	5	I–IX.	138 54 57.4	65.1	60.0	61.9	58.7	56.1	59.87	35.442	.457	29.874
	58	Lacaille 8923	7.5	1	V.	155 24 57.5	65.0	61.9	62.1	58.6	56.9	60.33	35.680	.683	29.890
	59	μ Cephei	7.0	1	V.	72 54 58.4	66.5	64.5	67.1	60.9	61.1	63.08	28.671	.674	- -
	60	29^2 Aquarii	- -	5	I–IX.	146 29 58.8	64.5	62.3	62.0	58.5	58.0	60.68	31.182	.207	- -
	61	39 Aquarii	7.0	5	I–IX.	143 44 59.0	66.8	63.9	64.5	60.0	59.0	62.20	31.702	.712	- -
	62	B. A. C. 7851	- -	5	1–5.	43 29 59.1	66.8	65.0	66.9	60.0	61.0	63.13	31.414	.425	29.890
	63	Nadir 22h. 15m.	- -	3	- -	269 59 58.5	65.2	61.9	64.3	59.0	59.2	61.35	29.059	.072	- -
	64	α Piscis Australis	- -	2	VII, IX.	159 14 58.0	65.9	64.5	66.0	58.4	58.0	61.80	36.226	.226	- -
	65	α Ursæ Majoris	- -	5	III–VII.	66 24 58.6	66.9	65.9	67.9	61.8	62.5	63.93	28.255	.257	29.852
	66	Mercury	- -	4	VI–IX.	128 59 56.9	62.5	57.8	60.1	56.8	57.1	58.53	31.943	.947	29.849

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29. 025	— 1 52. 9	+ 1 47. 1	151 39 53. 7	— 22 46 14. 5	— 60. 9	N.	
2	. .	50. 2	. .	1 28. 2	+ 3 28. 3	164 42 2. 2	— 35 48 23. 0	58. 4		Very uncertain.
3	. .	. .	. .	1 34. 1	— 9. 8	80 23 18. 8	+ 48 30 20. 4	83. 5		
4	. .	. .	. .	— 17. 4	— 24. 0	67 34 19. 8	61 19 19. 4	89. 4		
5	. .	. .	. .	+ 18. 2	+ 24. 0	292 25 41. 7	61 19 21. 0			
6	. .	. .	. .	7 19. 0	— 9. 4	260 47 10. 9	29 40 50. 2	92. 5		
7	. .	. .	. .	+ 2 9. 3	+ 24. 8	293 7 34. 4	62 1 13. 7	97. 9		
8	55. 0	49. 5	. .	— 2 13. 0	— 24. 8	66 52 25. 3	62 1 13. 9			
9	. .	. .	. .	+ 15. 8	+ 32. 0	118 45 48. 2	10 7 51. 0	105. 4		
10	54. 3	49. 9	. .	— 16. 8	— 32. 0	241 14 12. 4	+ 10 7 51. 7			
11	. .	. .	. .	+ 4 41. 8	— 1 2. 8	222 48 39. 5	— 8 17 40. 3	102. 9		
12	. .	. .	. .	+ 16. 9	+ 1 2. 8	137 11 20. 0	— 8 17 40. 8			
13	54. 3	49. 5	. .	— 1 57. 0	+ 57. 6	314 43 59. 6	+ 83 37 38. 9	— 109. 8		At 22h. 56m. 53s., 58m. 33s., and 59m. 11s.
14										
15	55. 5	59. 0	29. 009	+ 2 41. 7	— 18. 9	71 47 27. 4	57 6 11. 8	+ 103. 1	Ha.	
16	62. 5	61. 3	. .	— 2 0. 4	— 1 2. 7	42 16 58. 8	+ 86 36 40. 4	— 32. 4	N.	
17	. .	. .	. .	2 26. 1	+ 1 1. 7	137 13 35. 2	— 8 19 56. 0	+ 23. 5		
18	. .	. .	. .	1 20. 6	+ 0. 2	90 44 40. 4	+ 38 38 58. 8	— 38. 1		
19	. .	58. 6	. .	2 30. 7	— 42. 3	53 36 48. 7	+ 75 16 50. 5	48. 5		
20	.								Ha.	
21	59. 0	52. 0	. .	1. 2	+ 2 28. 5	158 47 27. 8	— 29 53 48. 6	65. 4		
22	. .	. .	. .	2 45. 6	2 18. 2	157 19 32. 7	28 25 53. 5	69. 6		No. of whole rev. recorded 24.
23	. .	. .	. .	— 29. 7	2 26. 8	158 31 57. 9	29 38 18. 7	72. 0		
24	. .	. .	. .	+ 1 21. 1	2 16. 7	157 3 39. 2	28 10 0. 0	75. 6		
25	58. 8	50. 6	. .	— 4 11. 8	2 8. 9	155 47 58. 1	26 54 18. 9	78. 0		
26	. .	. .	. .	56. 9	2 57. 8	162 2 1. 8	33 8 22. 6	82. 0		
27	57. 5	49. 6	. .	2 11. 4	2 57. 6	162 0 47. 1	33 7 7. 9	82. 1		
28	56. 0	48. 1	. .	2 37. 1	2 50. 7	161 15 14. 6	32 21 35. 4	94. 4		
29	. .	. .	. .	3 51. 3	2 50. 5	161 14 0. 2	— 32 20 21. 0	94. 4		
30										
31	. .	. .	. .	2 34. 6	+ 32. 9	119 37 57. 3	+ 9 15 41. 9	— 95. 3	N.	Blurred and unsteady.
32	56. 0	50. 3	. .	2 25. 7	— 32. 9	240 22 2. 9	9 15 42. 2			Blurred and unsteady.
33										
34	. .	49. 8	. .	1 13. 1	3 36. 6	14 40 12. 0	65 46 32. 7	+ 101. 5		
35	. .	. .	. .	33. 1	— 1 31. 9	32 7 56. 1	+ 83 14 16. 9	+ 105. 6		
36	. .	. .	. .	— 1 19. 3	+ 1 20. 0	144 10 1. 0	— 15 16 21. 8	— 97. 7		
37	. .	. .	. .	+ 2 22. 6	2 48. 5	161 15 12. 9	32 21 33. 7	94. 2		
38	. .	. .	. .	+ 1 8. 7	+ 2 48. 3	161 13 58. 8	— 32 20 19. 6	94. 2		
39	. .	. .	. .	— 2 19. 8	— 15. 3	75 12 27. 5	+ 53 41 11. 7	110. 7		
40	. .	. .	. .	— 2 37. 2	— 19. 8	71 7 5. 3	+ 57 46 33. 9	111. 2		
41	. .	49. 3	. .	+ 3. 8	+ 1 23. 1	145 11 26. 3	— 16 17 47. 1	103. 4		Faint; somewhat uncertain.
42	. .	. .	. .	— 1 1. 7	1 21. 6	144 40 20. 2	15 46 41. 0	104. 1		
43	. .	. .	. .	2 44. 5	3 34. 8	165 10 51. 5	36 17 12. 3	100. 0		
44	. .	. .	. .	8. 0	3 28. 4	164 43 21. 6	35 49 42. 4	100. 7		
45	. .	48. 2	. .	1 35. 2	+ 1 31. 5	147 39 55. 5	— 18 46 16. 3	104. 6		
46	. .	. .	. .	— 25. 4	— 40. 4	55 13 55. 9	+ 73 39 43. 3	110. 0		
47	. .	. .	. .	+ 23. 2	+ 40. 4	304 46 2. 8	73 39 42. 1			
48	53. 0	51. 7	29. 032	— 2 44. 1	40. 9	128 27 56. 9	+ 0 25 42. 3		Ha.	
49	54. 0	54. 2	. .	8. 3	54. 5	136 40 47. 0 }	— 8 3 12. 5			
50	. .	. .	. .	2 59. 3	55. 6	137 12 56. 4 }				
51	. .	. .	. .	1 20. 1	0. 2	90 13 40. 3	+ 38 39 58. 9	37. 9	N.	Steady.
52	52. 5	49. 0	. .	2 20. 7	1 13. 7	141 48 53. 0	— 12 55 13. 8	62. 6	Ha.	
53	. .	. .	. .	5. 1	1 13. 8	141 51 8. 7	— 12 57 29. 5	62. 7		
54	. .	. .	. .	34. 1	31. 0	118 4 55. 4	+ 10 48 43. 8	75. 3		
55	. .	. .	. .	37. 6	31. 0	118 4 51. 9	10 48 47. 3	75. 3		
56	. .	. .	. .	2 55. 0	31. 0	118 2 34. 5	+ 10 51 4. 7	76. 0		
57	52. 0	48. 8	. .	3 21. 3	1 6. 5	138 52 45. 0	— 9 59 5. 8	74. 1		
58	51. 5	48. 2	. .	— 3 28. 4	+ 2 6. 4	155 23 38. 3	— 26 29 59. 1	85. 4		
59	. .	. .	. .	+ 11. 2	— 17. 9	72 54 56. 3	+ 55 58 42. 9	105. 1		
60	. .	. .	. .	— 1 8. 2	+ 1 27. 8	146 30 20. 2	— 17 36 41. 0	91. 6		
61	. .	. .	. .	1 24. 0	+ 1 19. 4	143 44 57. 6	— 14 51 18. 4	94. 4		
62	51. 0	46. 8	. .	1 15. 0	— 1 1. 5	43 27 46. 6	+ 85 25 52. 6	108. 5		
63										
64	. .	45. 0	. .	— 3 45. 4	+ 2 33. 1	159 13 49. 5	— 30 20 10. 3	— 97. 8		
65	50. 1	52. 5	. .	+ 24. 3	— 25. 2	66 25 3. 0	+ 62 28 36. 2	+ 105. 2	N.	
66	54. 0	56. 0	. .	— 1 31. 3	+ 41. 4	128 59 8. 6	— 0 5 29. 4			

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. Oct. 14	1	β Ursæ Minoris	- -	3	VII–IX.	54 9 57.0	62.2	61.4	62.4	60.8	60.3	60.68	25.973	.842	29.791
	2	α Lyræ	- -	5	I–IX.	90 14 57.9	62.9	59.1	59.1	59.3	60.9	59.87	31.593	.577	- -
	3	Nadir 18h. 45m.	- -	4	- -	269 59 58.2	60.3	58.8	58.0	58.6	60.0	58.98	28.988	.998	- -
	4	δ Draconis	- -	5	III–VII.	61 29 57.9	62.8	61.8	60.5	61.0	62.9	61.15	32.418	.412	- -
	5	κ Aquilæ	- -	4	I–IV.	136 9 58.6	64.9	60.5	59.5	60.1	60.7	60.72	25.273	.323	- -
	6	κ Aquilæ, (Ref.)	- -	4	VI–IX.	223 49 58.0	60.2	61.2	60.1	57.6	61.0	59.68	32.844	.816	29.784
	7	B. A. C. 2590, S. P.	- -	2	IV, III.	28 44 57.4	62.0	61.6	63.7	60.4	59.7	60.80	28.188	.277	- -
	8	Weisse XIX, 1319	- -	1	V.	143 9 57.4	60.8	59.1	58.8	57.6	58.1	58.63	27.588	.592	- -
	9	λ Ursæ Minoris	- -	5	2–V.	39 59 57.0	61.9	61.2	62.1	60.0	61.0	60.53	28.851	.856	- -
	10	α² Capricorni	- -	3	III–VII.	141 49 58.0	62.0	60.9	58.8	58.4	58.1	59.37	29.133	.152	- -
	11	B. A. C. 7034	- -	5	III–VII.	154 54 58.1	61.8	60.4	58.8	58.0	59.0	59.35	29.915	.926	- -
	12	Lacaille 8492	7.3	1	V.	159 49 57.9	60.8	61.7	60.4	56.9	56.9	59.10	34.774	.777	- -
	13	τ² Capricorni	6.0:	5	I–IX.	144 19 58.0	62.1	59.6	59.0	59.0	57.8	59.25	33.282	.305	- -
	14	B. A. C. 7181	7.7	5	III–VII.	156 14 58.7	62.4	59.9	59.7	58.3	57.4	59.40	33.114	.134	29.786
	15	Lacaille 8616	7.2	5	III–VII.	157 19 58.9	62.6	61.4	60.9	58.9	58.3	60.17	34.207	.228	- -
	16	B. A. C. 7290	- -	3	III, V, VIII.	84 59 58.4	62.5	63.3	62.8	61.7	63.5	62.03	35.742	.756	- -
	17	Radcliffe 5050	- -	1	V.	“ “ “	“	“	“	“	“	“	29.424	.436	- -
	18	σ Ursæ Majoris, S. P.	- -	4	IV–I.	16 39 56.6	62.0	62.0	60.9	58.2	57.1	59.47	34.228	.275	- -
	19	29 Capricorni	- -	1	V.	144 34 57.4	61.8	58.5	57.5	57.8	57.2	58.37	27.045	.059	- -
	20	B. A. C. 7413	5.2	5	III–VII.	152 4 58.8	62.5	61.7	60.0	58.5	59.0	60.08	26.421	.436	- -
	21	Lacaille 8834	7.8	5	I–IX.	155 9 58.8	62.7	60.5	59.8	58.4	58.0	59.70	29.886	.905	- -
	22	ε Capricorni	- -	5	I–IX.	148 54 58.2	62.0	60.2	59.8	57.2	56.4	58.97	26.851	.865	- -
	23	Anon. 21h. 33m. 36s.	8.0:	1	V.	161 59 59.0	63.4	62.2	62.4	58.0	59.1	60.68	30.724	.727	- -
	24	Lacaille 8889	8.0:	1	V.	“ “ “	“	“	“	“	“	“	33.146	.163	- -
	25	Lacaille 8923	- -	5	III–VII.	155 24 58.0	62.1	60.7	60.0	58.0	57.6	59.40	35.581	.589	29.805
	26	B. A. C. 7632	- -	5	III–VII.	166 44 59.2	64.2	63.0	64.4	60.1	59.5	61.73	32.569	.580	- -
	27	29 Aquarii, (1st *)	8.0	2	III, VII.	146 29 57.6	61.6	59.2	58.0	57.1	57.9	58.57	30.988	.005	- -
	28	29 Aquarii, (2d *)	8.0	3	I–IX.	“ “ “	“	“	“	“	“	“	31.038	.062	- -
	29	36 Aquarii	7.0:	5	I–IX.	137 44 59.0	64.5	60.2	59.9	60.0	59.0	60.43	32.221	.242	- -
	30	ζ Pegasi	- -	4	I–IV.	118 44 60.7	64.5	60.6	61.1	59.1	61.2	61.20	28.570	.600	- -
	31	ζ Pegasi, (Ref.)	- -	4	VI–IX.	241 14 59.0	63.0	63.3	62.1	61.4	62.9	61.95	29.631	.600	- -
	32	ι Cephei	- -	4	I–IV.	63 24 57.1	61.5	60.6	60.5	59.0	60.5	59.87	30.215	.209	- -
	33	ι Cephei, (Ref.)	- -	4	VI–IX.	296 34 57.5	63.2	59.8	57.6	58.3	57.6	59.00	27.796	.823	- -
	34	Nadir 23h.	- -	3	- -	269 59 58.0	62.9	60.4	60.7	60.1	60.0	60.35	29.034	.047	29.816
15	35	Sun N. L.	- -	4	VI–IX.	137 24 55.9	63.8	57.2	59.0	57.1	56.8	58.30	30.139	.147	29.778
16	36	α Ursæ Majoris	- -	5	III–VII.	66 24 58.0	65.2	65.2	65.9	60.7	62.2	62.87	28.215	.218	30.096
17	37	Sun N. L.	- -	2	III, IV.	138 9 54.7	61.9	56.4	59.5	55.2	55.2	57.15	32.063	.088	30.076
	38	Sun S. L.	- -	4	VI–IX.	138 39 57.5	64.1	58.2	62.0	57.1	56.9	59.30	28.034	.038	- -
	39	δ Ursæ Minoris	- -	2	4, 5.	42 19 56.1	62.0	61.2	61.1	59.7	59.9	60.00	32.824	.823	30.042
	40	α Lyræ	- -	5	III–VII.	90 14 56.6	61.0	57.8	58.2	56.9	59.6	58.35	31.534	.535	- -
	41	Nadir 18h. 50m.	- -	4	- -	269 59 58.1	60.5	59.4	58.4	59.4	59.6	59.23	28.989	.999	- -
	42	δ Aquilæ	- -	5	I–IX.	125 59 58.9	62.6	59.9	57.9	58.1	58.2	59.27	25.535	.543	30.042
	43	O. Arg. S. 19715	- -	1	V.	148 44 59.6	61.8	60.0	59.1	57.0	56.9	59.07	31.885	.892	- -
	44	c¹ Sagittarii	- -	1	V.	145 29 59.0	62.3	60.5	58.1	58.1	58.9	59.48	32.654	.657	- -
	45	Lacaille 8231	- -	5	III–VII.	166 54 60.2	63.3	63.5	62.6	59.6	59.4	61.43	26.834	.845	- -
	46	B. A. C. 6814	- -	5	I–IX.	153 9 60.1	61.9	62.4	59.7	57.9	58.7	60.12	32.679	.693	- -
	47	Lacaille 8325	7.0	1	V.	151 49 60.2	63.4	62.8	60.3	58.9	59.2	60.80	28.927	.935	- -
	48	Weisse XIX, 1512	- -	5	I–IX.	143 29 60.2	63.7	62.4	60.5	59.0	59.0	60.80	27.505	.520	- -
	49	α² Capricorni, (Ref.)	- -	3	III–VII.	218 9 60.0	61.2	64.0	63.6	58.5	63.4	61.78	28.952	.959	- -
	50	o Ursæ Majoris, S. P.	- -	5	VII–III.	10 9 58.5	63.0	62.9	63.9	58.2	58.0	60.75	31.926	.948	- -
	51	B. A. C. 7079, (1st *)	8.0	2	III, VII.	118 4 61.5	64.2	60.1	60.8	58.0	61.9	61.08	30.204	.218	- -
	52	B. A. C. 7079, (2d *)	8.0	1	V.	“ “ “	“	“	“	“	‘	“	30.314	.330	- -
	53	ε Delphini	- -	5	I–IX.	“ “ “	“	“	“	“	“	“	34.709	.707	30.053
	54	Lacaille 8537	7.5	5	I–IX.	158 44 61.2	65.2	64.8	64.0	58.9	61.0	62.52	29.097	.127	- -
	55	ε Aquarii	- -	5	I–IX.	138 49 59.5	63.6	61.3	60.9	58.6	59.0	60.48	25.878	.888	- -
	56	57 Cygni	- -	1	V.	84 59 52.4	57.0	57.5	57.0	55.0	57.9	56.13	27.525	.532	- -
	57	O. Arg. S. 21053	7.7	1	V.	148 39 59.6	62.4	60.9	60.4	57.1	57.5	59.65	31.654	.657	- -
	58	B. A. C. 7437	8.5	1	V.	151 54 60.9	64.9	64.0	62.2	59.7	60.5	62.20	32.391	.404	- -
	59	α Equulei	- -	5	I–IX.	124 9 59.4	63.3	61.8	60.6	58.6	61.4	60.85	26.638	.634	- -
	60	B. A. C. 7413	- -	1	V.	152 4 59.4	63.2	63.0	61.2	58.0	59.7	60.75	26.441	.452	30.052
	61	11 Cephei, (Ref.)	- -	3	III–V.	301 44 58.2	62.2	61.0	58.2	57.3	57.7	59.10	24.110	.158	- -
	62	11 Cephei	- -	3	VII–IX.	58 9 58.6	64.1	64.3	64.7	62.0	64.5	63.03	24.576	.458	- -
	63	Nadir 21h. 50m.	- -	4	- -	269 59 58.2	60.9	60.6	60.2	58.2	59.8	59.65	29.011	.022	- -
	64	α Ursæ Majoris	- -	5	III–VII.	66 24 58.0	65.9	64.7	64.5	61.3	62.1	62.75	28.178	.180	29.930
	65	Polaris, S. P.	- -	3	4–2.	37 29 58.2	64.2	63.2	64.0	59.6	58.2	61.23	28.481	.491	- -

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	59.0	59.8	29.032	+ 1 40.0	− 40.9	54 10 59.7	+ 74 42 39.5	+ 60.9	N.	
2	. .	. .	. .	− 1 19.7	+ 0.2	90 13 40.3	38 39 58.9	− 37.9		
3										Ext ther. 56°.8 at 18h. 51m.
4	. .	. .	. .	− 1 45.9	− 31.1	61 27 44.1	+ 67 25 55.1	57.8		
5	. .	. .	. .	+ 1 56.2	+ 59.7	136 12 56.6	− 7 19 17.4	− 49.3		
6	58.5	54.1	. .	− 1 58.6	− 59.7	223 47 1.3	− 7 19 19.4			
7	. .	. .	. .	+ 23.7	− 1 44.2	28 43 40.3	+ 79 50 1.1	+ 66.8		
8	. .	. .	. .	45.1	+ 1 16.5	143 12 0.2	− 14 18 21.0	− 56.0		
9	. .	. .	. .	+ 5.5	− 1 8.3	39 58 57.7	+ 88 54 41.5	75.4		
10	. .	53.7	. .	− 3.7	+ 1 12.9	141 51 8.5	− 12 57 29.3	62.6		
11	. .	. .	. .	28.0	2 2.0	154 56 33.3	26 2 54.1	61.3		
12	. .	. .	. .	3 0.0	2 34.6	159 49 33.7	30 55 54.5	61.9		
13	. .	. .	. .	2 13.9	1 19.7	144 19 5.0	15 25 25.8	69.1		Very unsteady.
14	. .	53.7	. .	2 8.5	2 9.5	156 15 0.4	27 21 21.1	67.2		
15	. .	. .	. .	2 42.8	+ 2 16.4	157 19 33.8	− 28 25 54.6	69.3		
16	. .	. .	. .	3 30.7	− 5.2	84 56 26.1	+ 43 57 13.1	91.4		
17	. .	. .	. .	12.7	5.1	84 59 44.2	43 53 55.0	− 91.4		
18	. .	. .	. .	− 2 44.3	− 3 10.1	16 34 5.0	+ 67 40 35.8	+ 88.5		
19	. .	52.8	. .	+ 1 1.8	+ 1 20.8	144 37 20.9	− 15 43 41.7	− 80.3		
20	. .	. .	. .	+ 1 21.4	1 48.3	152 8 9.7	23 14 30.5	79.8		
21	. .	. .	. .	− 27.4	2 3.8	155 11 36.1	26 17 56.9	80.9		
22	. .	. .	. .	+ 1 7.9	1 35.5	148 57 42.3	20 4 3.1	84.6		
23	. .	. .	. .	− 53.1	2 55.5	162 2 3.0	33 8 23.8	81.5		
24	. .	. .	. .	2 9.4	2 55.3	162 0 46.5	33 7 7.3	81.7		
25	. .	51.4	. .	3 25.5	2 5.1	155 23 39.0	26 29 59.8	85.3		
26	. .	. .	. .	1 51.2	3 59.7	166 47 10.2	37 53 31.0	83.8		
27	. .	. .	. .	1 1.8	1 26.9	146 30 23.7	17 36 44.5	91.4		
28	. .	. .	. .	1 3.6	1 26.9	146 30 21.8	17 36 42.6	91.4		
29	. .	. .	. .	− 1 40.6	1 3.5	137 44 23.3	− 8 50 44.1	95.5		
30	. .	. .	. .	+ 13.5	+ 31.7	118 45 46.4	+ 10 7 52.8	105.4		Very unsteady.
31	. .	50.3	. .	− 17.8	− 31.7	241 14 12.4	10 7 51.7			Very unsteady.
32	. .	. .	. .	− 36.9	− 29.0	63 23 53.9	65 29 45.3	− 111.7		
33	. .	. .	. .	+ 37.9	+ 29.0	296 36 5.9	+ 65 29 45.2			
34	56.0	50.0								
35	58.5	66.0	. .	− 35.0	+ 17 0.2	137 41 23.5	− 8 47 44.3		Ha.	
36	54.0	54.5	29.029	+ 25.4	− 25.3	66 25 2.9	+ 62 28 36.3	+ 106.0	N.	
37	58.0	61.0	. .	− 1 35.8	+ 57.3	138 9 18.6	− 9 31 44.4			
38	. .	. .	. .	+ 31.0	+ 58.4	138 41 28.7				
39	62.0	61.4	. .	− 1 58.9	− 1 2.6	42 16 58.5	+ 86 36 40.7	− 32.0		
40	. .	. .	. .	− 1 18.5	+ 0.2	90 13 40.0	38 39 59.2	37.8		
41										
42	61.0	57.6	. .	+ 1 49.2	41.8	126 2 30.2	+ 2 51 9.0	48.3		
43	. .	. .	. .	− 1 29.7	1 34.4	148 45 3.7	− 19 51 24.5	43.5		
44	. .	. .	. .	− 1 53.7	1 23.5	145 29 29.2	16 35 50.0	47.4		
45	. .	. .	. .	+ 1 8.4	4 3.3	167 0 12.9	38 6 33.7	42.7		
46	. .	. .	. .	− 1 54.8	1 53.4	153 9 58.7	24 16 19.5	49.7		
47	. .	54.8	. .	+ 2.9	1 47.5	151 51 51.2	22 58 12.0	53.7		
48	. .	. .	. .	47.3	+ 1 17.9	143 32 6.0	14 38 26.7	58.6		
49	. .	. .	. .	+ 2.2	− 1 13.4	218 8 50.5	− 12 57 30.2	− 62.6		
50	. .	. .	. .	− 1 31.5	− 5 12.1	10 3 17.1	+ 61 9 37.9	+ 75.6		
51	. .	. .	. .	37.2	+ 30.8	118 4 54.6	10 48 44.6	− 75.4		
52	. .	. .	. .	40.8	30.8	118 4 51.1	10 48 48.1	75.4		
53	59.5	55.0	. .	2 57.9	30.8	118 2 33.9	+ 10 51 5.3	76.0		
54	. .	. .	. .	− 3.1	2 27.5	158 47 26.9	− 29 53 47.7	65.1		
55	. .	. .	. .	+ 1 38.4	+ 1 6.1	138 52 44.9	− 9 59 5.7	73.7		
56	. .	54.8	. .	+ 46.9	− 5.1	85 0 37.9	+ 43 53 1.3	90.2		Circle moved by blow on eye piece.
57	. .	. .	. .	− 1 22.3	+ 1 34.6	148 40 11.9	− 19 46 32.7	75.0		
58	. .	. .	. .	− 1 45.8	1 47.9	151 55 4.3	− 23 1 25.1	76.0		
59	. .	. .	. .	+ 1 15.0	39.3	124 11 55.1	+ 4 41 44.1	87.0		
60	59.0	53.7	. .	1 20.8	1 48.9	152 8 10.4	− 23 14 31.2	79.7		
61	. .	. .	. .	2 32.6	+ 35.9	301 48 7.6	+ 70 41 46.9	− 104.2		
62	. .	53.2	. .	2 23.2	− 35.9	58 11 50.3	70 41 48.9			
63										
64	56.0	48.0	29.042	27.0	25.5	66 25 4.2	62 28 35.0	+ 106.4	Ha.	
65	. .	59.4	. .	+ 17.2	− 1 14.1	37 29 4.3	+ 88 35 25.1	− 97.3		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
Oct. 18	1	Sun S. L. . . .	. .	4	I–IV.	139 4 58.4	65.3	61.0	61.9	58.9	58.0	60.58	34.140	.174	29.882
	2	Sun N. L. . . .	. .	2	VI, VII.	138 29 58.9	66.1	60.4	62.0	59.0	58.8	60.87	28.712	.708	. .
	3	Anon. 20h. 39m. 9s.	7.5	1	V.	157 4 59.0	62.7	60.9	60.0	57.5	59.0	59.85	33.395	.408	29.792
	4	Anon. 20h. 39m. 45s.	8.0	1	V.	" " "	"	"	"	"	"	"	27.157	.174	. .
	5	ν Cygni	5.5	1	V.	88 14 59.7	64.9	62.1	61.8	60.0	63.8	62.05	30.302	.318	. .
	6	B. A. C. 7312 . .	8.0	1	V.	146 34 59.0	63.0	60.2	59.5	57.7	59.7	59.85	31.096	.111	. .
	7	θ Capricorni . . .	5.0	1	V.	" " "	"	"	"	"	"	"	23.087	.102	. .
	8	Lacaille 8741 . .	8.0	1	V.	155 19 58.8	63.7	61.7	61.0	58.0	58.7	60.32	29.960	.970	. .
	9	Lacaille 8821 . .	8.0	1	V.	157 9 59.0	63.4	61.0	61.2	58.2	58.9	60.28	29.198	.215	. .
	10	8 Piscis Australis . .	6.5	5	III–VII.	155 39 59.7	64.2	61.1	61.1	59.2	59.0	60.72	33.324	.344	29.792
	11	Lacaille 9113 . .	. .	1	V.	155 24 60.6	66.0	63.3	63.2	60.0	60.9	62.33	33.661	.664	29.808
	12	κ Aquarii	. .	5	III–VII.	133 49 58.0	65.0	61.3	61.7	58.9	61.5	61.07	32.993	.005	. .
	13	12 Lacertæ	. .	1	V.	89 24 58.4	65.0	62.8	62.1	60.0	61.6	61.65	34.658	.661	. .
	14	α Piscis Australis . .	. .	5	I–IX.	159 14 58.8	64.5	63.0	64.0	58.0	59.4	61.28	36.167	.199	. .
	15	α Ursæ Majoris, S. P.	. .	5	VII–III.	11 24 58.5	65.2	64.3	66.0	59.1	59.8	62.15	25.497	.520	. .
	16	59 Pegasi	6.0	1	V.	120 54 58.0	64.7	60.6	62.9	57.6	59.2	60.50	31.724	.727	. .
	17	Lacaille 9447 . .	8.0	1	V.	152 24 58.0	63.9	62.2	63.0	57.8	59.0	60.65	28.361	.376	. .
	18	9 Piscium	6.0	1	V.	128 29 58.2	65.0	59.7	63.0	58.0	60.0	60.65	29.336	.351	. .
	19	Nadir	. .	3	. .	269 59 58.2	64.1	60.9	63.4	58.1	60.4	60.85*d*	29.055	.069	. .
19	20	Sun N. L. . . .	. .	4	I–IV.	138 54 57.7	64.9	60.3	62.9	57.2	57.2	60.03	35.034	.064	29.858
	21	Sun S. L. . . .	. .	4	VI–IX.	139 24 58.5	64.5	60.2	63.1	56.8	57.4	60.08	30.986	.988	. .
	22	α Lyræ	. .	3	III, IV, VIII.	90 14 59.9	66.0	62.6	64.1	60.6	62.5	62.62	31.667	.658	. .
20	23	Lacaille 8821 . .	. .	1	V.	157 9 57.0	64.6	61.3	64.3	56.0	57.1	60.05	29.255	.272	30.024
	24	8 Piscis Australis . .	. .	1	V.	155 39 56.9	64.8	59.5	63.2	56.8	56.0	59.53	33.362	.376	. .
	25	9 Cephei	. .	1	V.	67 24 56.8	66.6	64.4	67.0	60.0	62.6	62.90	28.648	.651	. .
	26	μ Capricorni . . .	. .	1	V.	143 4 56.8	65.2	61.1	64.0	57.0	57.0	60.18	32.202	.219	. .
	27	Lacaille 9003 . .	. .	1	V.	156 54 56.8	64.1	61.0	63.9	56.9	56.0	59.78	34.354	.369	30.028
	28	B. A. C. 7745 . .	. .	1	V.	154 44 56.6	65.0	61.0	63.5	56.9	57.2	60.03	34.020	.032	. .
	29	Lacaille 9113 . .	9.0	1	V.	155 24 57.6	65.1	61.1	63.7	57.1	56.9	60.25	33.639	.642	. .
	30	κ Aquarii	. .	1	V.	133 49 57.7	66.9	62.6	64.4	58.9	60.0	61.75	33.090	.105	30.032
	31	12 Lacertæ	. .	1	V.	89 24 57.0	66.1	62.6	64.5	58.8	59.6	61.43	34.634	.638	. .
	32	α Piscis Australis . .	. .	1	V.	159 14 56.9	66.3	63.1	66.7	57.4	57.1	61.25	36.261	.278	. .
	33	α Pegasi	. .	1	V.	114 24 56.3	66.2	63.1	65.0	58.0	58.1	61.12	30.715	.718	. .
	34	59 Pegasi	. .	1	V.	120 54 55.9	64.9	60.2	63.5	55.9	56.1	59.42	31.748	.751	. .
	35	Lacaille 9447 . .	9.0	1	V.	152 24 57.1	65.4	62.9	65.0	57.1	57.2	60.78	28.383	.397	. .
	36	9 Piscium	. .	1	V.	128 29 57.2	65.9	60.0	65.1	56.9	58.0	60.52	29.405	.418	30.050
	37	Nadir	. .	3	. .	269 59 56.9	59.0	65.0	57.0	66.1	61.0	60.83	29.043	.053	. .
	38	Polaris, S. P. . .	. .	3	4–2.	37 29 56.2	63.9	63.4	66.1	58.1	55.7	60.57	28.394	.408	30.128
21	39	Sun S. L. . . .	. .	4	I–IV.	140 4 57.4	66.0	61.1	64.9	57.5	55.4	60.38	25.427	.457	. .
	40	Sun N. L. . . .	. .	4	VI–IX.	139 34 57.6	66.2	61.0	64.1	57.6	55.6	60.35	29.674	.668	30.116
	41	α Lyræ	. .	5	I–IX.	90 14 57.7	63.4	60.1	61.4	58.8	60.8	60.37	31.595	.580	. .
	42	Nadir 19h. 45m. . .	. .	4	. .	269 59 57.5	60.8	59.9	59.2	57.5	58.7	58.93	28.990	.000	. .
	43	Lacaille 8325 . .	7.0	5	III–VII.	151 49 59.6	64.5	62.5	61.5	59.3	59.3	61.12	28.957	.970	30.025
	44	λ Ursæ Minoris . .	. .	3	4–5.	39 59 57.5	63.2	62.9	64.2	60.5	61.1	61.57	28.866	.864	. .
	45	α^1 Capricorni . . .	. .	1	I.	141 49 58.8	63.1	61.6	61.0	57.8	58.5	60.13	33.438	.506	. .
	46	α^2 Capricorni . . .	. .	5	I–IX.	" " "	"	"	"	"	"	"	29.168	.191	. .
	47	Anon. 20h. 14m. 31s.	. .	4	VI–IX.	162 19 56.8	61.5	60.9	61.2	55.9	56.9	58.87	30.492	.487	. .
	48	ω^1 Cygni	. .	1	V.	79 59 56.9	63.2	61.8	61.0	60.0	60.7	60.60	34.375	.389	30.030
	49	Anon. 20h. 30m. 42s.	8.0	5	III–VII.	162 29 58.2	62.9	62.0	62.8	58.3	58.5	60.45	30.169	.191	. .
	50	η Cephei, (Ref.) . .	. .	3	I–III.	292 24 58.3	61.9	60.4	58.5	58.0	58.6	59.28	28.339	.445	. .
	51	η Cephei	. .	4	VI–IX.	67 34 58.2	63.9	63.2	64.0	60.4	63.6	62.22	29.697	.626	. .
22	52	Sun N. L. . . .	. .	4	I–IV.	139 54 58.0	65.9	60.6	61.2	57.0	55.8	59.75	27.354	.387	29.862
	53	Sun S. L. . . .	. .	4	VI–IX.	140 29 57.1	67.0	61.3	63.4	58.0	57.0	60.63	32.807	.802	. .
24	54	Sun S. L. . . .	. .	4	I–IV.	141 9 57.0	63.8	60.4	62.9	57.5	57.1	59.78	29.146	.182	29.788
	55	Sun N. L. . . .	. .	4	VI–IX.	140 39 56.9	65.8	60.6	63.0	58.3	57.5	60.35	33.462	.463	. .
	56	Nadir 22h. 25m. . .	. .	3	. .	269 59 57.0	63.8	60.1	61.5	58.8	59.5	60.12	29.028	.038	. .
	57	Mercury	. .	5	III–VII.	136 9 56.9	65.5	60.7	61.1	58.9	58.5	60.27	28.347	.363	30.059
25	58	Sun N. L. . .	. .	4	I–IV.	140 59 57.5	62.3	60.2	61.0	57.0	56.5	59.08	32.062	.095	. .
	59	Sun S. L. . . .	. .	4	VI–IX.	141 29 57.6	65.0	61.5	62.6	58.6	58.1	60.57	27.936	.936	30.048
	60	Venus	. .	2	I, III.	149 19 58.5	63.2	61.1	61.0	57.2	57.4	59.73	29.466	.504	30.032
	61	O. Arg. S. 21290 .	8.5	5	III–VII.	151 29 57.9	63.5	62.2	61.4	58.4	58.0	60.23	33.059	.076	30.056
	62	Nadir 21h. 30m. . .	. .	3	. .	269 59 58.1	62.6	60.2	61.4	58.5	60.1	60.15	29.032	.044	. .
	63	O. Arg. S. 21269 .	9.0	1	V.	147 39 59.2	64.0	62.7	62.0	58.2	58.5	60.77	31.803	.807	. .
	64	γ Gruis	4.0:	5	I–IX.	166 49 59.0	65.0	63.3	64.8	59.5	59.4	61.83	30.063	.097	30.057

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	59.5	60.6	29.042	− 2 40.8	+ 58.9	139 3 18.6	− 9 53 34.6		Ha.	
2	. .	. .	. .	+ 10.5	57.7	138 31 9.0				Clouds at wires VIII, IX.
3	60.0	53.0	. .	− 2 16.8	2 14.9	157 4 57.9	28 11 18.7	− 67.0		
4	. .	. .	. .	+ 58.5	+ 2 15.2	157 8 13.5	− 28 14 34.3	67.2		
5	. .	. .	. .	− 40.0	− 1.8	88 14 20.2	+ 40 39 19.0	90.9		
6	. .	. .	. .	− 1 4.8	+ 1 27.0	146 35 22.0	− 17 41 42.8	76.3		
7	. .	. .	. .	+ 3 6.1	1 27.2	146 39 33.1	17 45 53.9	76.7		
8	. .	. .	. .	− 29.1	2 4.8	155 21 36.0	26 27 56.8	76.1		
9	. .	. .	. .	5.4	2 16.2	157 12 11.0	28 18 31.8	79.1		
10	59.0	50.7	. .	2 14.8	2 6.8	155 39 52.7	26 46 13.5	82.0		
11	57.0	48.1	. .	2 24.8	2 6.1	155 24 43.6	26 31 4.4	92.7		
12	. .	. .	. .	2 4.2	+ 55.7	133 48 52.5	− 4 55 13.3	101.4		
13	. .	. .	. .	2 56.1	− 0.6	82 22 4.9	+ 39 31 34.3	110.8		
14	. .	. .	. .	− 3 44.2	+ 2 31.9	159 13 48.9	− 30 20 9.7	− 97.1		
15	. .	. .	. .	+ 1 50.3	− 4 39.8	11 22 12.6	+ 62 28 33.4	+ 106.6		
16	. .	. .	. .	− 1 24.1	+ 34.8	120 54 11.2	+ 7 59 28.0	− 108.0		
17	. .	. .	. .	+ 20.9	1 51.1	152 27 12.6	− 23 33 33.4	101.4		
18	. .	47.2	. .	− 9.7	46.3	128 30 37.2	+ 0 23 2.0	107.3		
19										
20	56.0	54.6	29.035	3 8.9	59.2	138 52 50.3	− 10 15 15.5		N.	
21	. .	. .	. .	1 1.2	1 0.4	139 24 59.2				
22	. .	. .	. .	1 22.2	0.2	90 13 40.6	+ 38 39 58.6	37.7		
23	52.5	46.1	29.027	7.7	2 18.6	157 12 10.9	− 28 18 31.7	79.0	Ha.	
24	. .	. .	. .	− 2 16.3	+ 2 9.1	155 39 52.3	− 26 46 13.1	81.8		
25	. .	. .	. .	+ 11.8	− 24.5	67 24 50.2	+ 61 28 49.0	103.7		
26	. .	. .	. .	− 1 40.0	+ 1 18.2	143 4 38.3	− 14 10 59.1	90.2		
27	51.5	44.6	. .	2 47.4	2 17.2	156 54 29.5	28 0 50.3	87.8		
28	. .	. .	. .	2 36.8	2 4.3	154 44 27.5	25 50 48.3	90.9		
29	. .	. .	. .	2 24.6	2 8.3	155 24 43.9	26 31 4.7	92.5		
30	50.0	42.8	. .	2 7.8	+ 56.7	133 48 50.6	− 4 55 11.4	101.3		
31	. .	. .	. .	2 55.8	− 0.6	89 22 5.0	+ 39 31 34.2	111.1		
32	. .	. .	. .	3 47.2	+ 2 34.7	159 13 48.7	− 30 20 9.5	96.7		
33	. .	. .	. .	53.0	26.9	114 24 35.0	+ 14 29 4.2	108.7		
34	. .	. .	. .	− 1 25.3	35.5	120 54 9.6	+ 7 59 29.6	108.1		
35	. .	. .	. .	+ 19.8	1 53.1	152 27 13.6	− 23 33 34.4	101.2		
36	49.5	42.0	. .	− 12.2	+ 47.2	128 30 35.5	+ 0 23 3.7	108.1		
37										Quite uncertain; mercury very unsteady.
38	52.0	56.4	29.036	+ 19.7	− 1 15.2	37 29 5.0	+ 88 35 25.8	98.5	N.	
39	. .	. .	. .	+ 1 52.1	+ 1 2.3	140 7 54.7	− 10 58 8.9			This limb very bad.
40	53.5	57.4	. .	− 1 19.8	1 1.1	139 35 41.6				
41	. .	. .	. .	− 1 19.7	0.2	90 13 40.8	+ 38 39 58.4	37.5		Very steady.
42										Recorded 20h.
43	56.0	51.6	. .	+ 2.1	+ 1 48.1	151 51 51.3	− 22 58 12.1	53.7		
44	. .	. .	. .	+ 5.4	− 1 9.2	39 58 57.7	+ 88 54 41.5	76.0		
45	. .	. .	. .	− 2 20.1	+ 1 13.8	141 48 53.8	− 12 55 14.6	62.4		
46	. .	. .	. .	4.8	1 13.9	141 51 9.2	12 57 30.0	62.6		
47	. .	. .	. .	45.5	+ 3 0.7	162 22 14.0	− 33 28 34.8	56.7		
48	55.5	50.2	. .	2 47.7	− 10.3	79 57 2.6	+ 48 56 36.6	83.3		
49	. .	. .	. .	− 36.2	+ 2 0.8	162 31 25.0	− 33 37 45.8	62.2		
50	. .	. .	. .	+ 18.5	+ 24.1	292 25 41.8	+ 61 19 21.0	90.6		Cloudy at wire IV.
51	. .	. .	. .	− 18.5	− 24.1	67 34 19.6	+ 61 19 19.6			Cloudy.
52	50.5	48.3	. .	+ 51.7	+ 1 2.5	139 56 53.9	− 11 19 20.9		Ha.	
53	. .	. .	. .	− 1 58.0	1 3.8	140 29 6.4				
54	55.0	59.7	. .	4.6	1 3.7	141 10 58.8	12 1 12.2			
55	. .	. .	. .	− 2 18.7	1 2.4	140 38 44.0				
56										
57	55.0	58.2	. .	+ 21.1	55.1	136 11 16.4	7 17 37.2		N.	
58	. .	. .	. .	− 1 35.8	1 4.0	140 59 27.2	12 21 54.5			
59	56.3	58.9	. .	+ 34.5	1 5.3	141 31 40.3				
60	59.0	60.6	. .	− 14.7	1 31.0	149 21 16.0	20 27 36.8			Cloudy from V to IX.
61	55.3	48.4	. .	2 6.6	1 47.3	151 29 40.9	22 36 1.7	78.2		
62			. .							
63	. .	. .	. .	1 26.8	1 32.4	147 40 6.3	18 46 27.1	86.8		
64	54.5	46.8	. .	− 33.3	+ 4 5.8	166 53 34.3	− 37 59 55.1	− 81.9		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
Oct. 25	1	B. A. C. 7665 . .	7.2	5	III-VII.	147 24 58.4	63.7	61.2	60.6	57.0	58.2	59.85	28.989	.003	. .
	2	36 Aquarii	7.3	5	I-IX.	137 44 57.7	64.1	60.5	59.9	58.4	57.9	59.75	32.269	.290	. .
	3	39 Aquarii	6.0	1	V.	143 44 58.5	63.6	61.9	61.0	57.9	58.6	60.25	31.665	.668	. .
	4	B. A. C. 3528, S. P.	5.5	4	5, 4, 2, 1.	32 9 57.9	65.1	64.0	64.8	59.5	59.6	61.82	30.160	.179	. .
	5	σ^1 Gruis	. .	1	V.	170 4 57.8	64.0	63.5	63.2	57.0	57.5	60.50	29.113	.129	30.056
	6	σ^2 Gruis	. .	3	I-IX.	" " "	"	"	"	"	"	"	28.063	.106	. .
	7	B. A. C. 7593 . .	6.0	1	V.	71 4 56.5	63.4	62.1	63.7	59.7	62.5	61.32	24.515	.523	. .
	8	α Ursæ Majoris, S. P.	.	1	V.	11 24 54.7	62.5	62.0	64.3	56.6	56.5	59.43	25.360	.375	. .
	9	Neptune	. .	4	III-IX.	127 49 57.5	63.2	61.0	62.0	56.2	56.9	59.47	30.848	.842	30.070
	10	λ^1 Sculptoris . . .	. .	1	IX.	167 59 58.0	64.8	64.8	66.5	57.7	58.0	61.63	26.505	.507	. .
	11	λ^2 Sculptoris . . .	. .	1	V.	" " "	"	"	"	"	"	"	30.845	.850	. .
	12	O. Arg. S. 433 . .	. .	1	V.	158 4 57.1	64.1	62.4	63.6	55.5	57.0	59.95	28.919	.927	. .
	13	Polaris, (Ref.) . .	. .	3	1, V, 4.	319 39 56.5	63.1	61.7	60.6	55.5	57.0	59.07	27.786	.793	30.073
	14	Ceres	7.3	1	V.	135 24 56.8	64.1	62.0	62.4	57.5	58.0	60.13	32.736	.739	. .
	15	ν Piscium, (Ref.) . .	. .	4	I-IV.	235 54 56.6	63.0	64.7	65.9	57.3	60.7	61.37	28.448	.491	. .
	16	ν Piscium	. .	3	VII-IX.	124 4 55.5	64.4	61.1	62.9	56.2	58.1	59.70	29.664	.635	. .
	17	50 Cassiopeæ, (Ref.) .	. .	4	I-IV.	302 49 55.2	62.6	61.7	60.4	55.5	55.1	58.42	25.666	.772	. .
	18	50 Cassiopeæ . . .	. .	4	VI-IX.	57 9 . .	62.5	61.6	64.0	56.7	59.6	59.93	32.320	.233	. .
	19	Nadir 2h. 15m. . .	. .	4	. .	269 59 56.5	63.4	61.1	63.9	56.4	58.4	59.95	29.024	.037	. .
	20	Anon. 2h. 24m. 44s.	8.2	1	V.	107 9 57.2	66.2	63.4	63.6	57.5	57.6	60.92	30.569	.574	. .
	21	Amphitrite . . .	9.3	1	VII.	" " "	"	"	"	"	"	"	28.400	.382	30.074
26	22	Sun S. L. . . .	. .	4	I-IV.	141 49 57.2	65.2	61.7	62.9	57.5	57.1	60.27	27.056	.089	30.132
	23	Sun N. L. . . .	. .	4	VI-IX.	141 19 58.1	65.3	61.5	64.0	57.5	57.1	60.58	31.292	.299	. .
28	24	α Lyræ	. .	5	III-VII.	90 14 57.1	64.6	60.0	60.4	59.1	60.1	60.22	31.580	.578	. .
	25	29 Piscium	. .	4	VI-IX.	132 39 58.1	65.9	61.3	63.0	58.2	58.8	60.88	30.318	.306	29.720
	26	ι Ceti	. .	5	III-VII.	138 29 57.9	65.4	60.0	61.9	58.0	56.2	59.90	35.159	.177	. .
	27	Neptune	. .	1	V.	127 49 57.8	64.0	60.0	60.8	57.0	56.9	59.42	27.659	.662	. .
	28	55 Piscium	. .	5	I-IX.	108 14 57.5	66.3	61.1	61.8	58.0	59.0	60.62	36.119	.144	. .
	29	δ Piscium	. .	5	I-IX.	122 4 57.9	65.2	61.6	61.9	57.9	57.6	60.35	34.977	.985	. .
	30	20 Ceti	. .	5	I-IX.	130 44 57.8	65.5	60.9	63.0	57.4	57.8	60.40	28.331	.347	. .
	31	26 Ceti	. .	5	I-IX.	128 14 57.9	65.2	60.0	61.0	57.2	57.7	59.83	30.529	.536	29.730
	32	Polaris	. .	5	1-5.	40 19 57.1	65.6	64.0	66.5	58.4	62.0	62.27	30.457	.464	. .
	33	Ceres	8.0	1	V.	135 29 57.3	65.7	61.2	61.5	58.2	57.3	60.20	35.489	.498	. .
	34	η Piscium	. .	5	I-IX.	114 14 57.1	66.0	62.2	64.0	57.9	59.1	61.05	30.676	.672	. .
	35	B. A. C. 504 . . .	. .	1	V.	154 34 57.8	65.9	62.6	62.9	57.5	57.7	60.73	30.658	.661	. .
	36	Lalande 3237 . .	9.0	1	V.	131 29 57.0	64.9	60.3	61.0	56.5	56.2	59.32	31.042	.056	. .
	37	ι Arietis	. .	1	V.	111 44 57.2	65.2	60.1	62.6	57.0	58.1	60.33	31.461	.471	. .
	38	Lacaille 607 . . .	8.0	1	V.	151 29 57.1	65.0	62.2	63.2	57.9	56.8	60.37	31.220	.237	. .
	39	O. Arg. S. 1261 . .	8.0	1	V.	" " "	"	"	"	"	"	"	37.478	.487	. .
	40	η Arietis	. .	5	III-VII.	108 19 56.8	66.5	62.0	62.0	58.0	58.2	60.58	31.495	.500	. .
	41	ξ Arietis	.	1	V.	118 54 56.8	64.0	59.0	61.1	55.7	56.2	58.80	32.515	.523	. .
	42	Amphitrite . . .	9.5	1	IX.	107 19 56.6	66.0	62.5	62.3	58.1	58.0	60.58	35.318	.269	29.746
	43	Nadir	. .	3	. .	269 59 57.5	65.1	60.9	64.4	58.1	60.3	61.05	29.087	.097	. .
	44	Mercury, centre . .	. .	5	I-IX.	138 54 60.4	67.9	62.5	65.3	60.7	60.7	62.92	26.288	.308	29.896
29	45	Sun N. L. . . .	. .	4	I-IV.	142 19 59.5	66.8	63.2	64.6	59.2	60.0	62.22	30.965	.995	. .
	46	Sun S. L. . . .	. .	4	VI-IX.	142 49 59.4	67.4	63.8	64.8	60.0	60.6	62.67	26.702	.696	29.890
	47	Weisse 739 . . .	9.0	5	I-IX.	143 29 58.7	64.7	62.1	62.5	57.8	59.0	60.80	24.931	.946	29.923
	48	Nadir 23h. 45m. .	. .	3	. .	269 59 58.0	63.8	61.6	63.9	58.0	59.0	60.72	29.062	.072	. .
	49	Anon. 0h. 11m. 6s. .	7.7	2	VI, VIII.	128 59 57.5	63.9	59.6	62.4	56.3	57.4	59.52	27.610	.589	29.956
	50	Neptune	. .	5	I-IX.	127 49 56.9	63.1	59.5	60.9	55.1	55.6	58.52	26.672	.675	. .
	51	O. Arg. S. 369 . ..	8.0	1	V.	149 49 58.0	64.5	62.9	64.2	56.1	56.5	60.37	32.919	.927	. .
	52	O. Arg. S. 442 . .	7.2	1	V.	152 49 57.9	64.9	63.7	64.6	56.5	58.0	60.93	31.081	.096	. .
	53	O. Arg. S. 544 . .	. .	1	V.	149 14 58.4	64.6	63.3	64.9	56.9	56.9	60.82	31.576	.581	. .
	54	26 Ceti	. .	5	I-IX.	128 14 58.2	65.3	60.5	63.8	56.5	58.2	60.42	30.541	.547	. .
	55	35 Ceti	. .	1	V.	127 9 57.4	65.2	61.8	63.7	56.9	58.5	60.58	34.135	.152	. .
	56	Polaris, (Ref.) . .	. .	1	4.	319 39 55.6	63.5	61.7	60.0	55.3	55.0	58.52	27.712	.718	. .
	57	η Piscium, (Ref.) . .	. .	5	I-IX.	245 44 55.5	63.5	62.2	63.9	56.8	59.0	60.15	27.491	.506	. .
31	58	29 Piscium	. .	1	V.	132 39 54.4	63.3	58.0	61.1	54.5	54.1	57.57	30.210	.227	30.176
	59	ι Ceti	. .	1	V.	138 29 56.4	64.3	59.6	62.5	56.5	54.9	59.03	35.106	.122	. .
	60	Nadir 1h. 0m. . .	. .	3	. .	269 59 57.9	65.0	61.1	64.5	57.9	59.9	61.05	29.081	.096	. .
Nov. 1	61	O. Arg. S. 21596 .	9.2	1	V.	147 39 57.9	64.1	62.0	64.0	55.5	56.4	59.98	29.316	.332	30.314
	62	O. Arg. S. 21645 .	7.5	1	IX.	" " "	"	"	"	"	"	"	24.929	.907	. .
	63	Lacaille 8993 . .	. .	1	V.	163 19 58.1	65.0	62.9	65.4	57.0	57.4	60.97	30.679	.682	30.317
	64	O. Arg. S. 21841 .	. .	1	V.	151 19 57.5	64.5	62.1	64.9	56.1	55.7	60.13	33.439	.450	. .
	65	O. Arg. N. 23452 .	6.2	1	V.	76 14 56.9	65.2	64.5	67.1	59.4	59.9	62.17	29.901	.908	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.036	+ 1.0	+ 1 31.7	147 26 32.5	— 18 32 53.3	— 90.4	N.	
2	. .	. .	. .	— 1 42.0	1 4.6	137 44 22.3	8 50 43.1	95.1		
3	. .	. .	. .	1 22.5	+ 1 20.0	143 44 57.7	— 14 51 18.5	— 93.7		
4	. .	. .	. .	35.8	— 1 33.3	32 7 52.7	+ 83 14 13.5	+ 109.1		
5	. .	45.4	. .	— 2.9	+ 5 25.2	170 10 22.8	— 41 16 43.6	— 89.7		
6	. .	. .	. .	+ 29.1	+ 5 25.5	170 10 55.1	— 41 17 15.9	89.8		
7	. .	. .	. .	2 21.4	— 20.2	71 7 2.5	+ 57 46 36.7	— 114.1		
8	. .	. .	. .	+ 1 54.7	— 4 43.6	11 22 10.5	62 28 31.3	+ 108.7		
9	48.5	42.7	. .	— 56.6	+ 45.8	127 49 48.6	+ 1 3 50.6			
10	. .	. .	. .	+ 1 19.2	4 32.8	168 5 53.6	— 39 12 14.4	— 98.2		
11	. .	. .	. .	— 56.8	4 32.0	168 3 36.8	39 9 57.6	98.2		
12	. .	. .	. .	+ 3.4	2 26.4	158 7 29.7	— 29 13 50.5	99.7		
13	. .	41.9	. .	+ 39.0	1 10.0	319 41 48.0	+ 88 35 27.3	100.2		Mercury unsteady.
14	. .	. .	. .	— 1 56.0	+ 1 0.1	135 24 4.2	— 6 30 25.0			
15	. .	. .	. .	+ 17.1	— 40.2	235 54 38.2	+ 4 48 17.5	96.6		
16	. .	. .	. .	— 18.8	+ 40.2	124 5 21.1	4 48 18.1			
17	. .	. .	. .	+ 1 42.3	+ 38.4	302 52 19.1	71 45 58.4	90.2		
18	. .	41.1	. .	— 1 40.2	— 38.4	57 7 41.3	71 45 57.9			—0″.55 applied to mean of C, D, E, F. E recorded 66″.7.
19										
20	. .	. .	. .	— 48.2	+ 18.4	107 9 31.1	21 44 8.1	83.4		
21	46.0	40.7	. .	+ 20.5	18.4	107 10 39.8	+ 21 42 59.4			
22	54.0	55.0	29.046	+ 1 1.3	1 6.9	141 52 8.4	— 12 42 22.7		Ha.	
23	. .	. .	. .	— 1 10.6	1 5.5	141 19 55.4				
24	. .	. .	29.056	1 19.0	0.2	90 13 41.4	+ 38 39 57.8	36.1		
25	54.5	49.6	. .	39.2	53.2	132 40 14.8	— 3 46 35.6	106.6		
26	. .	. .	. .	— 3 11.8	1 5.1	138 27 53.2	— 9 34 14.0	104.8		
27	. .	. .	. .	+ 43.7	44.7	127 51 27.8	+ 1 2 11.4			Through clouds; faint and uncertain.
28	. .	. .	. .	— 3 42.1	19.0	108 11 37.5	20 42 1.7	108.3		
29	. .	. .	. .	— 3 5.8	36.2	122 2 30.7	+ 6 51 8.5	105.4		
30	. .	. .	. .	+ 22.2	49.8	130 46 12.4	— 1 52 33.2	103.6		
31	54.5	49.1	. .	— 46.4	+ 45.5	128 14 58.9	+ 0 38 40.3	102.6		
32	. .	. .	. .	44.1	— 1 8.1	40 18 10.0	+ 88 35 29.2	101.2		
33	. .	. .	. .	3 21.9	+ 58.7	135 27 37.0	— 6 33 57.8			
34	. .	. .	. .	50.6	26.1	114 14 36.5	+ 14 39 2.7	99.3		
35	. .	. .	. .	50.3	2 1.2	154 36 11.6	— 25 42 32.4	93.6		
36	. .	. .	. .	1 2.7	51.2	131 29 47.8	— 2 36 8.6	94.9		
37	. .	. .	. .	1 15.7	23.1	111 44 7.7	+ 17 9 31.5	93.5		
38	. .	. .	. .	1 8.3	1 46.3	151 30 38.3	— 22 36 59.1	89.5		
39	. .	. .	. .	4 24.2	1 46.0	151 27 22.2	— 22 33 43.0	89.4		
40	. .	. .	. .	1 16.6	19.2	108 19 3.2	+ 20 34 36.0	89.4		
41	. .	. .	. .	1 48.6	32.0	118 53 42.2	9 59 57.0	85.9		
42	53.5	47.4	. .	— 3 14.6	18.1	107 17 4.0	+ 21 36 35.2			Very faint and uncertain.
43										
44	56.7	58.4	. .	+ 1 26.1	1 0.7	138 57 29.7	— 10 3 50.5		N.	
45	. .	. .	. .	— 1 0.8	1 6.8	142 20 8.2	13 42 37.2			
46	57.5	59.3	. .	+ 1 13.9	1 8.2	142 52 24.7				
47	55.5	48.5	. .	2 8.8	1 18.7	143 33 28.3	14 39 49.1	86.1		
48										Image excessively unsteady.
49	49.5	43.3	. .	46.0	47.7	129 1 33.2	— 0 7 54.0	106.7		
50	. .	. .	. .	+ 1 14.6	45.6	127 51 58.7	+ 1 1 40.5			
51	. .	43.0	. .	— 2 1.3	1 41.1	149 49 40.1	— 20 56 0.9	100.9		
52	. .	. .	. .	1 3.9	1 54.5	152 50 51.5	23 57 12.3	98.8		
53	. .	. .	. .	1 19.1	1 38.9	149 15 20.6	— 20 21 41.4	99.7		Cloudy.
54	. .	. .	. .	46.7	46.5	128 15 0.2	+ 0 38 39.0	102.5		Very unsteady.
55	. .	. .	. .	— 2 39.7	44.7	127 8 5.5	1 45 33.7	101.4		
56	. .	. .	. .	+ 41.9	+ 1 9.5	319 41 49.9	88 35 29.2	101.5		
57	. .	. .	. .	+ 48.6	— 26.6	245 45 22.1	+ 14 39 1.4	99.3		
58	52.0	48.0	. .	— 36.7	+ 54.2	132 40 15.0	— 3 46 35.8	106.3	Ha.	
59	. .	. .	. .	3 10.1	1 6.4	138 27 55.3	9 34 16.1	104.5		
60										
61	49.0	44.9	. .	— 8.7	1 33.7	147 41 25.0	18 47 45.8	84.6	N.	
62	. .	. .	. .	+ 2 10.0	1 33.9	147 43 43.8	18 50 4.6	86.5		
63	48.7	43.5	. .	— 50.9	3 16.6	163 22 26.6	34 28 47.4	84.2		
64	. .	. .	. .	2 17.7	+ 1 48.6	151 19 31.0	— 22 25 51.8	88.9		
65	. .	. .	. .	— 26.7	— 14.6	76 14 20.8	+ 52 39 18.4	— 109.5		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
Nov. 1	1	B. A. C. 7745 . .	5.3	1	V.	154 44 57.8	65.3	62.3	64.5	56.2	56.9	60.50	34.045	.059	. .
	2	B. A. C. 3528, S. P.	5.0	3	5–1.	32 9 55.9	65.2	62.8	66.0	57.3	57.4	60.77	30.129	.146	30.315
	3	35 Pegasi	5.2	1	V.	124 54 56.3	65.2	61.4	63.8	56.3	57.5	60.08	35.624	.628	. .
	4	Lalande 45545 . .	9.0	1	V.	145 9 56.2	63.0	59.2	62.8	54.9	55.9	58.67	28.941	.950	30.306
	5	Anon. 23h. 16m. 33s.	9.0	1	V.	162 54 56.8	65.0	61.2	65.6	55.1	56.6	60.05	24.340	.355	. .
	6	Anon. 23h. 23m. 24s.	. .	1	V.	167 49 56.4	63.6	62.4	66.6	55.0	55.4	59.90	22.347	.362	. .
	7	Anon. 23h. 27m. 27s.	. .	1	V.	" " "	"	"	"	"	"	"	29.248	.265	. .
	8	τ Cassiopeæ . . .	. .	4	I–IV.	70 59 55.4	65.3	62.2	68.1	57.2	60.5	61.45	29.651	.646	. .
	9	τ Cassiopeæ, (Ref.) .	. .	4	VI–IX.	288 59 54.8	64.0	60.2	61.6	55.0	53.4	58.17	28.438	.457	. .
	10	O. Arg. S. 23176 .	8.8	5	III–VII.	147 39 56.1	64.4	61.5	64.9	54.5	55.7	59.52	33.077	.095	30.309
	11	γ Pegasi	. .	4	I–IV.	114 29 56.5	68.1	63.5	67.9	57.9	59.3	62.20	34.763	.790	. .
	12	γ Pegasi, (Ref.) . .	. .	4	VI–IX.	245 34 56.8	65.4	63.9	69.0	57.0	60.6	62.12	32.999	.987	. .
	13	Nadir 0h. 15m. . .	. .	5	. .	269 59 56.6	64.9	61.5	66.9	56.5	57.1	60.58	29.053	.066	. .
	14	λ^1 Sculptoris . . .	. .	5	III–VII.	167 59 57.4	66.1	63.8	69.3	56.8	56.4	61.63	26.631	.641	. .
	15	λ^2 Sculptoris . . .	. .	1	V.	" " "	"	"	"	"	"	"	30.947	.956	30.310
4	16	Neptune	. .	1	V.	127 54 57.0	64.1	59.5	61.1	56.9	56.8	59.23	30.572	.577	29.405
	17	55 Piscium	6.0	1	V.	108 14 57.1	67.1	61.0	63.1	58.0	58.9	60.87	36.138	.155	. .
	18	δ Piscium	. .	1	V.	122 4 57.0	65.1	60.8	63.0	57.2	57.0	60.02	34.937	.946	. .
	19	20 Ceti	. .	1	V.	130 44 56.3	65.0	59.6	62.9	56.5	56.8	59.52	28.278	.295	. .
	20	Polaris	. .	3	4.	40 19 56.8	66.1	63.0	67.0	58.7	61.4	62.17	30.541	.546	29.420
	21	η Piscium . . .	. .	1	V.	114 14 57.4	67.2	62.1	65.3	58.6	59.5	61.68	30.733	.736	. .
	22	B. A. C. 504 . . .	. .	1	V.	154 34 56.8	65.0	61.0	63.3	56.9	57.4	60.07	30.625	.629	. .
	23	Lalande 3237 . .	9.0	1	V.	131 29 56.5	65.0	59.2	62.8	56.3	55.9	59.28	31.005	.017	29.428
	24	ι Arietis	. .	1	V.	111 44 57.2	66.8	60.8	65.0	58.2	58.9	61.15	31.530	.537	. .
	25	Lacaille 607 . . .	. .	1	V.	151 29 57.3	66.1	63.0	64.8	58.0	57.3	61.08	31.195	.212	. .
	26	η Arietis	. .	1	V.	108 19 57.2	68.0	62.6	64.0	58.5	58.9	61.53	31.575	.580	. .
	27	Amphitrite . . .	. .	1	VII.	107 34 57.1	66.9	63.1	64.0	59.0	58.4	61.42	28.130	.115	. .
	28	ξ Arietis	. .	1	V.	118 54 57.3	66.1	59.9	63.0	57.1	57.4	60.13	32.590	.595	. .
	29	γ Ceti	. .	1	V.	126 14 57.5	65.9	61.5	63.7	58.4	57.6	60.77	32.980	.991	29.440
	30	Nadir 2h. 48m. . .	. .	5	. .	269 59 57.1	65.0	61.1	65.5	58.1	59.3	61.02*d*	29.124	.140	. .
5	31	Moon S. L. . . .	. .	5	I–IX.	144 59 57.6	66.0	61.2	63.9	57.3	56.5	60.42	28.159	.075	. .
	32	76 Draconis	6.0	3	1–5.	46 54 56.1	65.5	63.0	66.6	58.5	57.7	61.23	34.041	.053	30.004
	33	O. Arg. S. 21148 .	9.3	1	V.	152 19 56.1	64.5	62.0	65.3	56.0	56.0	59.98	28.969	.979	. .
	34	O. Arg. S. 21290 .	8.8	5	I–IX.	151 29 57.4	65.7	63.5	66.1	57.1	56.5	61.05	33.173	.187	. .
	35	Anon. 21h. 18m. 32s.	. .	3	IV–VI.	151 14 58.1	65.8	63.8	66.1	58.0	56.9	61.45	26.380	.395	. .
	36	b Capricorni . . .	5.5	5	I–IX.	" " "	"	"	"	"	"	"	28.407	.429	. .
	37	O. Arg. S. 21480 .	9.5	1	IX.	144 4 57.7	66.4	63.0	65.4	58.1	56.8	61.23	27.625	.596	30.015
	38	O. Arg. S. 21596 .	9.5	1	V.	147 39 57.6	64.8	63.0	65.1	55.4	55.4	60.22	29.342	.357	. .
	39	O. Arg. S. 21629 .	9.0	1	V.	" " "	"	"	"	"	"	"	31.883	.889	. .
	40	O. Arg. S. 21645 .	8.0	1	V.	" " "	"	"	"	"	"	"	24.864	.870	. .
	41	Lacaille 8947 . .	8.8	1	V.	156 49 57.8	65.7	62.4	66.0	57.6	55.9	60.90	32.710	.713	. .
	42	O. Arg. S. 21841 .	8.0	1	V.	151 14 57.5	65.4	63.5	65.6	56.7	55.9	60.77	23.925	.933	. .
	43	O. Arg. S. 21915 .	9.3	2	VII, IX.	" " "	"	"	"	"	"	"	33.608	.590	. .
	44	B. A. C. 8287 . .	. .	5	III–VII.	149 49 57.0	66.4	63.0	67.2	56.6	55.5	60.95	27.460	.473	30.050
	45	α Andromedæ . . .	. .	2	I, II.	100 34 57.5	66.5	62.9	68.3	58.0	57.5	61.78	33.793	.814	. .
	46	α Andromedæ, (Ref.) .	. .	4	VI–IX.	259 29 57.1	65.1	62.7	69.0	67.9	58.9	63.45	33.998	.993	. .
	47	Anon. 0h. 11m. 9s. .	7.5	1	V.	128 59 57.4	66.2	60.6	66.3	56.1	56.3	60.48	27.650	.653	30.062
	48	Neptune	. .	3	III–VII.	127 54 56.6	64.6	60.0	64.2	56.0	54.5	59.32	29.741	.744	. .
	49	Nadir 0h. 50m. . .	. .	4	. .	269 59 57.3	66.1	62.3	68.0	57.0	57.6	61.38*d*	29.106	.119	. .
	50	O. Arg. S. 818 . .	8.5	1	V.	158 4 57.6	68.1	64.1	69.3	56.0	55.0	61.68	32.052	.066	. .
	51	Lacaille 451 . . .	7.2	1	V.	158 19 57.8	68.4	64.0	69.6	56.1	55.0	60.15	29.595	.600	. .
	52	Lacaille 492 . . .	7.0	1	V.	162 59 57.5	68.4	63.6	69.4	56.9	57.2	62.17	37.957	.967	30.060
	53	ε Cassiopeæ . . .	. .	3	III–V.	65 54 55.9	66.8	64.0	69.0	57.6	58.3	61.93	31.442	.454	. .
	54	ε Cassiopeæ, (Ref.) .	. .	4	VI–IX.	294 4 56.4	66.4	64.7	67.9	57.7	55.5	61.43	26.758	.778	. .
	55	α Arietis, (Ref.) . .	. .	3	I, III, IV.	253 54 56.3	66.2	65.1	71.0	56.8	57.8	62.20	27.017	.067	. .
	56	α Arietis	. .	2	VIII, IX.	106 4 56.5	69.9	65.0	70.9	58.0	57.8	63.02	31.282	.243	30.081
	57	Amphitrite . . .	9.2	1	V.	107 39 56.9	69.3	64.0	69.0	57.9	57.5	62.43	31.884	.890	. .
10	58	Venus, centre . .	. .	5	I–IX.	153 4 57.8	60.6	59.0	57.3	57.9	61.0	58.93	29.055	.079	29.662
	59	α Lyræ	. .	5	III–VII.	90 14 58.0	64.1	59.8	59.2	61.1	65.3	61.25	31.583	.582	. .
	60	O. Arg. S. 21912 .	. .	1	V.	147 19 58.8	63.9	60.1	60.9	56.4	62.2	60.38	26.123	.139	29.737
	61	B.A.C.3528,S.P.(Ref.)	. .	1	. .	327 49 57.5	65.0	61.4	59.7	58.2	60.3	60.35	27.862	.843	29.725
	62	B. A. C. 7851 (Ref.)	. .	2	. .	316 29 57.9	62.0	59.2	57.6	57.0	60.1	58.97	26.430	.465	. .
	63	O. Arg. S. 22373 .	9.3	1	V.	155 49 58.2	63.8	60.1	60.2	57.4	60.2	59.98	26.241	.258	. .
	64	B. A. C. 8026, (Ref.)	. .	3	. .	314 44 58.4	64.0	61.2	59.6	57.9	61.6	60.45	32.250	.588	. .
	65	O. Arg. S. 22687 .	. .	1	VIII.	152 44 59.0	64.8	62.8	62.9	58.0	62.0	61.58	27.031	.022	. .
	66	Lacaille 9425 . .	7.2	1	V.	" " "	"	"	"	"	"	"	20.727	.730	29.735

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.056	− 2 36.8	+ 2 5.9	154 44 29.6	− 25 50 50.4	− 89.6	N.	
2	48.3	42.0	. .	34.2	− 1 34.9	32 7 51.6	+ 83 14 12.4	+ 110.7		
3	. .	. .	. .	− 3 25.9	+ 41.7	124 52 15.8	+ 4 1 23.4	− 102.0		
4	46.0	39.7	. .	+ 3.3	1 26.2	145 11 28.1	− 16 17 48.9	101.5		
5	. .	. .	. .	2 27.3	3 13.8	163 0 41.1	34 7 1.9	96.8		
6	. .	. .	. .	+ 3 29.8	4 33.8	167 58 3.5	39 4 24.3	95.9		Faint and uncertain.
7	. .	. .	. .	− 6.5	+ 4 32.5	167 54 25.9	− 39 0 46.7	96.2		
8	. .	. .	. .	− 18.5	− 20.7	70 59 22.2	+ 57 54 17.0	116.5		
9	. .	. .	. .	+ 18.8	+ 20.7	289 0 37.6	+ 57 54 16.8			
10	45.0	38.6	. .	− 2 6.6	1 34.8	147 39 27.7	− 18 45 48.5	102.6		
11	. .	. .	. .	2 59.7	+ 27.4	114 27 29.9	+ 14 26 9.3	109.9		
12	. .	. .	. .	− 2 3.2	− 27.4	245 32 31.5	+ 14 26 10.7			Very unsteady.
13										
14	. .	. .	. .	+ 1 15.7	+ 4 37.8	168 5 55.1	− 39 12 15.9	96.6		
15	44.5	37.6	. .	− 59.5	4 37.0	168 3 39.1	− 39 9 59.9	96.5		
16	49.0	43.9	29.108	46.0	44.8	127 54 58.0	+ 0 58 41.2		Ha.	
17	. .	. .	. .	3 40.8	19.0	108 11 39.0	20 42 0.2	108.8		
18	. .	. .	. .	− 3 2.9	36.2	122 2 33.3	+ 6 51 5.9	105.4		
19	. .	. .	. .	+ 25.5	+ 49.9	130 46 14.9	− 1 52 35.7	103.2		Star unsteady. Poor observation.
20	48.0	41.2	. .	− 45.1	− 1 8.4	40 18 8.6	+ 88 35 30.6	103.8		
21	. .	. .		51.0	+ 26.2	114 14 36.8	+ 14 39 2.4	99.6		
22	. .	. .	. .	47.7	2 1.8	154 36 14.1	− 25 42 34.9	92.3		
23	47.5	41.2	. .	59.8	51.4	131 29 50.8	− 2 36 11.6	94.5		
24	. .	. .	. .	1 16.1	23.2	111 44 8.2	+ 17 9 31.0	93.8		
25	. .	. .	. .	1 5.9	1 46.7	151 30 41.8	− 22 37 2.6	88.2		
26	. .	. .	. .	− 1 17.5	19.3	108 19 3.3	+ 20 34 35.9	89.9		
27	. .	. .	. .	+ 31.1	18.5	107 35 51.0	21 17 48.2			
28	. .	. .	. .	− 1 49.2	32.1	118 53 43.0	9 59 56.2	85.9		
29	46.5	41.0	. .	− 2 1.7	+ 42.6	126 13 41.6	+ 2 39 57.6	80.0		
30										
31	45.5	41.0	29.075	+ 28.1	− 62 17.3	143 58 11.2	− 15 4 32.0		N.	
32	44.5	38.8	. .	− 2 36.0	− 55.8	46 51 29.4	+ 82 2 9.8	94.5		
33	. .	. .	. .	+ 3.0	+ 1 53.4	152 21 56.3	− 23 28 17.1	74.6		
34	. .	. .	. .	− 2 8.8	1 49.4	151 29 41.6	22 36 2.4	77.7		
35	. .	. .	. .	+ 1 24.0	1 48.5	151 18 13.9	22 24 34.7	79.7		
36	. .	. .	. .	20.2	1 48.4	151 17 10.0	22 23 30.8	80.4		
37	44.0	38.1	. .	+ 46.3	1 22.4	144 7 9.9	15 13 30.7	84.6		Faint and uncertain.
38	. .	. .	. .	− 8.8	1 34.2	147 41 25.6	18 47 46.4	85.5		Faint and uncertain.
39	. .	. .	. .	− 1 28.2	1 34.1	147 40 6.1	18 46 26.9	86.1		
40	. .	. .	. .	+ 2 11.8	1 34.3	147 43 46.3	18 50 7.1	86.4		
41	. .	. .	. .	− 1 54.0	2 18.7	156 50 25.6	27 56 46.4	84.2		
42	. .	. .	. .	+ 2 41.1	1 49.0	151 19 30.8	22 25 51.6	88.7		
43	. .	. .	. .	− 2 21.5	1 48.6	151 14 27.8	22 20 48.6	91.1		
44	41.0	33.6	. .	+ 50.2	1 43.6	149 52 34.7	− 20 58 55.5	101.5		
45	. .	. .	. .	− 2 28.5	+ 11.2	100 32 44.4	+ 28 20 54.8	113.0		
46	. .	. .	. .	− 2 34.1	− 11.2	259 27 18.1	+ 28 20 57.3			
47	40.5	32.8	. .	+ 44.6	+ 49.0	129 1 34.0	− 0 7 54.8	106.6		
48	. .	. .	. .	− 21.0	46.9	127 55 25.2	+ 0 58 14.0			
49										
50	. .	. .	. .	1 33.7	2 29.7	158 5 57.6	− 29 12 18.4	93.8		
51	. .	. .	. .	16.4	2 31.8	158 22 15.5	29 28 36.3	92.3		
52	37.7	31.0	. .	4 38.6	+ 3 15.5	162 58 39.0	− 34 4 59.8	90.3		
53	. .	. .	. .	− 1 14.5	− 27.2	65 53 20.2	+ 63 0 19.0	96.4		
54	. .	. .	. .	+ 1 12.0	+ 27.2	294 6 40.6	63 0 19.8			
55	. .	. .	. .	+ 1 2.9	− 17.5	253 55 47.6	22 49 26.9	91.7		
56	37.5	30.0	. .	− 1 7.9	+ 17.5	106 4 12.6	22 49 26.6			
57	. .	. .	. .	1 28.2	19.4	107 38 53.6	+ 21 14 45.6			
58	65.0	64.7	29.072	0.2	1 44.1	153 6 42.8	− 24 13 3.6			Wires of microscopes B and F bent a little.
59	. .	. .	. .	− 1 18.7	0.2	90 13 42.7	+ 38 39 56.5	34.5	Ha.	
60	59.3	53.1	. .	+ 1 31.9	1 29.3	147 23 1.5	− 18 29 22.3	− 90.5	N.	
61	59.0	52.8	. .	38.5	1 31.1	327 52 9.9	+ 83 14 10.8	+ 112.4		At 22h. 16m. 45s.
62	. .	. .	. .	1 21.7	1 0.5	316 32 21.1	+ 85 26 0.4	− 114.9		At 22h. 25m. 57s., and 26m. 15s.
63	. .	. .	. .	+ 1 28.2	2 7.8	155 53 35.9	− 26 59 56.7	93.5		Faint and uncertain. [33s.
64	. .	. .	. .	− 1 50.2	57.0	314 44 7.2	+ 83 37 46.5	118.0		At 22h. 52m. 35s., 23h. 2m. 45s., and 23h. 3m.
65	. .	. .	. .	+ 1 4.2	1 51.5	152 47 57.2	− 23 54 18.0	97.9		Faint and uncertain.
66	. .	50.6	. .	+ 4 21.4	+ 1 52.4	152 51 15.3	− 23 57 36.1	− 98.1		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
Nov. 10	1	Nadir 23h. 25m.	. .	4	. .	269 59 58.3	65.4	60.6	63.9	59.2	64.4	61.97	29.122	.135	. .
	2	τ Cassiopeæ, (Ref.)	. .	4	I–IV.	288 59 57.6	64.3	60.0	59.9	57.8	61.9	60.25	28.366	.449	. .
	3	τ Cassiopeæ	. .	3	VII–IX.	70 59 57.4	65.0	62.2	66.0	59.8	66.9	62.88	29.910	.833	. .
	4	O. Arg. S. 23204	6.3	1	V.	149 39 58.0	64.0	61.0	62.2	56.8	60.1	60.35	29.032	.045	. .
	5	Weisse XXIII, 1267	8.0	5	I–IX.	128 54 58.5	65.5	59.5	61.1	57.9	63.1	60.93	26.610	.614	29.743
	6	Neptune	. .	5	I–IX.	127 54 58.0	64.4	58.6	60.9	57.0	61.5	60.07	25.547	.553	. .
	7	Anon. 0h. 29m. 41s.	. .	1	V.	167 49 58.8	65.4	63.3	65.4	58.2	60.6	61.95	26.209	.226	. .
	8	δ Piscium	. .	4	I–IV.	122 4 58.5	65.5	61.7	62.8	57.5	62.4	61.40	34.975	.012	. .
	9	δ Piscium, (Ref.)	. .	4	VI–IX.	237 59 58.1	63.8	63.9	65.0	60.7	65.2	62.78	32.915	.896	. .
	10	Moon S. L.	. .	5	I–IX.	122 4 58.9	66.4	62.1	62.6	57.8	62.2	61.67	28.888	.894	. .
	11	Ceres	. .	5	I–IX.	137 24 58.7	66.9	62.5	62.6	59.8	62.9	62.23	32.971	.985	29.706
	12	O. Arg. S. 818	8.8	1	V.	158 4 58.5	66.6	62.5	64.0	57.2	60.6	61.57	31.870	.876	. .
	13	μ Piscium	. .	5	III–VII.	123 24 58.9	66.2	63.0	63.2	57.9	62.1	61.88	27.033	.045	. .
	14	Lacaille 451	7.8	1	V.	158 19 60.1	67.9	64.3	65.4	58.9	61.9	63.08	29.395	.408	. .
11	15	Sun S. L.	. .	2	III, IV.	146 49 60.3	68.1	61.6	64.7	58.1	63.0	62.63	34.584	.603	29.850
	16	Sun N. L.	. .	2	VIII, IX.	146 14 59.9	69.8	63.2	66.7	60.2	63.1	63.82	29.678	.669	. .
	17	α Lyræ	. .	5	III–VII.	90 14 61.0	70.0	63.8	66.9	62.0	65.8	64.92	31.682	.678	. .
12	18	Anon. 23h. 16m. 31s.	. .	1	V.	162 54 58.1	66.5	61.9	65.7	56.2	61.3	61.62	24.255	.261	. .
	19	Anon. 23h. 23m. 22s.	. .	1	VIII.	167 54 57.0	63.5	61.3	64.8	55.9	58.0	60.08	31.689	.678	. .
	20	Anon. 23h. 27m. 25s.	. .	1	V.	" " "	"	"	"	"	"	"	38.574	.578	. .
	21	O. Arg. S. 23082	7.0	5	I–IX.	147 54 57.0	63.8	60.2	62.4	54.3	58.4	59.35	29.860	.869	. .
	22	O. Arg. S. 23096	7.5	1	V.	147 39 57.2	64.4	61.6	63.1	55.0	58.4	59.95	31.647	.649	29.755
	23	O. Arg. S. 23176	8.3	1	V.	" " "	"	"	"	"	"	"	33.004	.005	. .
	24	Lacaille 9715	7.3	5	III–VII.	168 29 57.8	64.9	62.5	65.9	56.4	59.5	61.17	37.354	.366	. .
	25	Lacaille 9725	6.8	1	V.	" " "	"	"	"	"	"	"	35.149	.153	. .
	26	Weisse XXIII, 1267	7.0	1	V	128 54 57.0	64.6	59.1	63.0	55.6	60.6	59.98	26.595	.598	. .
	27	Anon. 0h. 9m. 54s.	. .	1	V.	128 49 56.8	64.6	59.4	62.8	55.3	59.5	59.73	26.281	.287	. .
	28	Neptune	. .	5	I–IX.	127 54 57.7	64.6	59.1	62.0	55.1	59.0	59.58	24.017	.017	. .
	29	Lacaille 126	8.5	1	V.	168 14 57.5	64.4	62.2	65.6	55.5	57.0	60.37	29.294	.300	. .
	30	Anon. 0h. 32m. 17s.	9.0	1	V.	161 39 56.7	65.0	61.4	64.1	54.2	58.4	59.97	34.150	.154	. .
	31	Nadir 0h. 50m.	. .	5	. .	269 59 57.5	66.4	60.9	65.6	57.6	60.5	61.42	29.088	.091	. .
	32	Anon. 0h. 56m. 59s.	7.0	1	V.	161 39 58.0	66.5	63.0	66.2	55.8	58.6	61.35	30.957	.957	29.796
	33	Polaris	. .	5	1, 5.	40 19 57.0	67.9	63.7	70.4	58.1	63.0	63.35	30.587	.586	. .
	34	μ Piscium	4.5	5	I–IX.	123 24 56.9	66.4	61.4	65.1	55.5	59.4	60.78	26.992	.991	. .
	35	Lacaille 451	6.5	1	V.	158 19 56.9	66.8	61.9	65.8	55.4	57.5	60.72	29.387	.393	. .
	36	Lacaille 492	7.5	1	V.	162 54 56.7	66.2	61.6	65.5	55.0	58.9	60.65	28.215	.220	. .
	37	ξ Piscium	. .	1	V.	126 19 57.1	66.0	60.1	64.2	55.5	58.5	60.23	28.856	.856	. .
	38	O. Arg. S. 1181	9.0	1	V.	147 34 57.2	66.0	61.7	63.6	54.7	58.4	60.27	34.695	.696	. .
	39	O. Arg. S. 1210	8.7	1	VI.	" " "	"	"	"	"	"	"	28.769	.758	29.816
	40	α Draconis, S. P.	. .	5	VII–III.	13 59 55.2	67.1	61.0	66.1	54.7	57.1	60.20	31.291	.313	. .
	41	O. Arg. S. 1421	8.3	1	V.	145 29 56.6	66.5	61.3	63.6	56.4	58.8	60.53	31.745	.746	. .
	42	ξ^2 Ceti	. .	4	I–IV.	120 59 56.5	66.0	60.0	65.2	54.9	58.1	60.12	25.574	.605	. .
	43	ξ^2 Ceti, (Ref.)	. .	4	VI–IX.	238 59 55.6	64.3	61.9	66.3	57.2	60.9	61.03	32.574	.551	. .
	44	Lacaille 803	. .	1	V.	152 24 55.5	65.4	61.6	65.5	54.7	56.9	59.93	25.998	.999	. .
	45	η Persei	. .	4	I–IV.	73 34 55.2	66.5	62.4	68.5	57.2	60.2	61.67	31.107	.105	. .
	46	η Persei, (Ref.)	. .	4	VI–IX.	286 24 56.0	64.5	60.7	64.2	55.2	57.5	59.68	26.970	.976	. .
	47	Moon S. L.	. .	5	I–IX.	113 54 54.4	64.6	59.1	64.0	53.7	56.1	58.65	26.181	.178	. .
	48	α Ceti	. .	5	I–IX.	125 19 57.9	68.9	62.6	66.7	57.0	59.8	62.15	30.172	.175	29.894
	49	Nadir 3h. 6m.	. .	4	. .	269 59 56.9	67.1	61.6	66.9	57.0	59.6	61.52	29.084	.087	. .
	50	B. A. C. 2899	. .	1	V.	109 9 59.1	69.9	64.0	69.8	58.1	62.0	63.82	30.491	.496	. .
	51	Anon. 8h. 32m. 36s.	. .	1	V.	109 9 60.4	69.4	61.9	70.3	57.6	61.5	63.52	40.672	.674	29.770
	52	Nadir 9h. 15m.	. .	5	. .	269 59 58.4	71.0	62.7	70.6	58.4	59.8	63.48	29.170	.174	. .
14	53	Sun N. L.	. .	3	II–IV.	147 4 57.4	68.3	60.9	66.4	57.1	58.2	61.38	34.150	.174	. .
	54	Sun S. L.	. .	4	VI–IX.	147 34 57.5	68.7	62.0	65.9	56.2	58.0	61.38	29.618	.612	30.240
	55	Venus	. .	5	III–VII.	153 34 56.9	67.6	62.1	67.2	55.8	57.0	61.10	30.856	.859	30.216
	56	α Lyræ	. .	1	V.	90 14 57.9	71.9	63.2	68.8	59.3	60.6	63.62	31.630	.632	. .
	57	α Aquarii	. .	1	V.	129 49 57.1	71.4	60.8	70.0	59.3	59.0	62.93	27.081	.084	30.258
	58	O. Arg. S. 22146	8.0	1	V.	147 54 54.9	67.6	59.1	66.1	54.0	55.2	59.48	30.360	.366	. .
	59	Lacaille 9256	7.0	1	V.	155 29 54.9	69.0	61.5	67.3	57.0	55.2	60.82	31.895	.895	. .
	60	τ^2 Aquarii	6.0	1	V.	143 9 54.8	68.7	61.1	68.3	57.1	56.8	61.13	28.250	.256	. .
	61	α Piscis Australis	. .	1	V.	159 14 55.0	69.1	61.6	69.2	57.0	57.0	61.48	36.305	.311	30.262
	62	Lalande 45892	7.0	1	V.	144 54 55.1	68.5	59.2	66.0	57.4	56.0	60.37	35.826	.826	. .
	63	O. Arg. S. 22851	7.0	1	V.	" " "	"	"	"	"	"	"	29.789	.789	30.258
	64	108 Aquarii	6.5	1	V.	148 34 55.1	68.4	61.7	67.1	56.8	55.1	60.70	35.765	.766	. .
	65	Lalande 46769	7.0	1	V.	148 14 55.3	67.2	61.0	67.2	55.5	55.0	60.20	37.295	.301	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.072						N.	
2	. .	. .	. .	+ 19.5	+ 19.9	289 0 39.6	+ 57 54 18.9	− 118.3		
3	. .	. .	. .	− 23.8	− 19.9	70 59 19.1	+ 57 54 20.1			
4	. .	. .	. .	+ 0.8	+ 1 38.4	149 41 39.5	− 20 48 0.3	100.8		
5	57.0	49.9	. .	1 17.0	46.7	128 57 4.6	− 0 3 25.4	106.6		
6	. .	. .	. .	1 50.3	44.9	127 57 35.2	+ 0 56 4.0			
7	. .	49.0	. .	+ 1 29.2	4 22.7	167 55 53.8	− 39 2 14.6	95.1		Faint and uncertain.
8	. .	. .	. .	− 3 6.2	+ 36.2	122 2 31.4	+ 6 51 7.8	105.2		
9	. .	. .	. .	− 1 59.8	− 36.2	237 57 26.7	6 51 6.0			
10	. .	. .	. .	+ 5.6	− 47 23.7	121 17 43.5	+ 7 35 55.7			
11	55.3	49.4	. .	− 2 2.6	+ 1 2.8	137 24 2.4	− 8 30 23.2			
12	. .	. .	. .	− 1 27.8	2 22.7	158 5 56.4	− 29 12 17.2	92.7		
13	. .	. .	. .	+ 1 3.5	38.2	123 26 43.5	+ 5 26 55.7	98.4		
14	. .	49.0	. .	− 10.5	2 24.8	158 20 7.0	− 29 28 38.1	91.2		Ext. thermometer recorded 59°.0.
15	55.0	51.6	29.062	2 53.9	1 20.8	146 48 29.5	− 17 38 37.5		Ha.	
16	. .	. .	. .	19.0	79.1	146 16 3.9				
17	. .	. .	. .	− 1 22.0	0.2	90 13 43.1	+ 38 39 56.1	34.3		
18	. .	41.8	29.042	+ 2 29.8	3 9.3	163 0 40.7	− 34 7 1.5	95.4	N.	
19	. .	. .	. .	− 1 22.6	4 27.4	167 58 4.8	39 4 25.6	94.3		
20	. .	. .	. .	4 58.8	4 26.2	167 54 27.4	39 0 48.2	94.6		
21	. .	. .	. .	25.9	1 33.5	147 56 6.9	19 2 27.7	101.2		
22	48.7	41.3	. .	1 21.7	1 32.5	147 40 10.7	18 46 31.5	101.3		
23	. .	. .	. .	2 4.2	1 32.6	147 39 28.3	18 45 49.1	101.3		
24	. .	. .	. .	4 20.8	4 39.0	168 30 19.3	39 36 40.1	95.4		
25	. .	. .	. .	− 3 11.5	4 40.5	168 31 30.1	39 37 50.9	95.4		
26	. .	. .	. .	+ 1 16.6	47.5	128 57 4.0	− 0 3 24.8	106.6		
27	. .	. .	. .	1 26.3	47.4	128 52 13.4	+ 0 1 25.8	106.3		Recorded circle reading 128° 54′.
28	. .	40.9	. .	+ 2 37.4	45.8	127 58 22.7	+ 0 55 16.5			
29	. .	. .	. .	− 8.1	4 37.0	168 19 29.2	− 39 25 50.0	94.8		
30	. .	. .	. .	2 40.2	2 55.7	161 40 15.4	32 46 36.2	96.2		
31										
32	47.0	39.7	. .	1 0.0	+ 2 56.4	161 41 57.7	− 32 48 18.5	94.2		
33	. .	. .	. .	− 48.4	− 1 9.5	40 18 5.4	+ 88 35 33.8	106.5		
34	. .	. .	. .	+ 1 4.3	+ 39.0	123 26 44.0	+ 5 26 55.2	98.5		
35	. .	. .	. .	− 11.0	2 27.8	158 22 17.5	− 29 28 38.3	90.8		
36	. .	39.5	. .	+ 25.8	3 10.3	162 58 36.7	− 34 4 57.5	88.8		
37	. .	. .	. .	+ 1 39.8	43.6	126 22 23.6	+ 2 31 15.6	93.0		
38	. .	. .	. .	− 2 57.2	1 32.9	147 33 35.9	− 18 39 56.7	88.7		
39	45.5	38.9	. .	+ 8.9	+ 1 33.1	147 36 42.2	− 18 43 3.0	− 88.2		
40	. .	. .	. .	− 1 11.2	− 3 53.9	13 54 55.1	+ 65 1 15.9	+ 89.4		
41	. .	. .	. .	− 1 24.7	+ 1 26.0	145 30 1.8	− 16 36 22.6	− 84.8		
42	. .	. .	. .	+ 1 47.7	+ 35.7	121 2 23.5	+ 7 51 15.7	84.7		
43	. .	38.6	. .	− 1 49.9	− 35.7	238 57 35.4	+ 7 51 14.7	84.7		
44	. .	. .	. .	+ 1 35.3	+ 1 53.2	152 28 28.4	− 23 34 49.2	78.2		
45	. .	. .	. .	− 1 4.6	− 17.5	73 33 39.5	+ 55 19 59.7	79.5		
46	. .	. .	. .	+ 1 4.7	+ 17.5	286 26 21.8	55 20 1.1			
47	. .	. .	. .	+ 1 29.7	− 39 38.9	113 16 49.2	15 36 49.8			
48	44.5	38.4	. .	− 35.5	+ 42.0	125 20 8.6	3 33 30.6	− 73.6		
49										
50	. .	. .	29.063	44.9	20.7	109 9 39.6	19 43 59.6	+ 69.2	H.*	* Prof. Hall.
51	43.5	35.2	. .	6 3.8	20.6	109 4 20.3	+ 19 49 18.9	+ 70.1		
52										
53	. .	. .	29.060	2 40.2	1 25.2	147 3 46.3	− 18 26 19.5		N.	
54	42.2	38.6	. .	17.3	1 27.1	147 36 11.1				
55	40.0	38.5	. .	56.4	1 54.7	153 35 59.4	− 24 42 20.2			
56	. .	. .	29.085	− 1 19.8	0.2	90 13 44.0	+ 38 39 55.2	− 35.0	Ha.	
57	38.0	33.2	. .	+ 1 2.7	50.8	129 51 56.4	− 0 58 17.2	96.0		
58	. .	.	. .	− 40.1	1 36.9	147 55 56.2	19 2 17.0	93.2		
59	. .	. .	. .	− 1 28.0	2 13.1	155 30 45.9	26 37 6.7	93.8		
60	. .	. .	. .	+ 26.0	1 21.4	143 11 48.5	14 18 9.3	98.2		
61	38.0	31.7	. .	− 3 46.4	2 39.4	159 13 54.4	30 20 15.2	93.7		
62	. .	. .	. .	3 31.2	1 26.7	144 52 55.8	15 59 16.6	101.0		
63	38.0	30.8	. .	22.1	1 26.9	144 56 5.1	16 2 25.9	101.0		
64	. .	. .	. .	3 29.3	1 39.7	148 33 11.1	19 39 31.9	100.6		
65	. .	. .	. .	− 4 17.4	+ 1 38.4	148 12 21.2	− 19 18 42.0	− 100.8		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
Nov. 14	1	O. Arg. S. 23204 .	7.0	1	V.	149 39 55.7	68.7	61.8	68.9	56.9	56.0	61.33	29.281	.287	- -
	2	Lacaille 48 . . .	7.0	1	V.	153 14 54.9	68.0	61.5	67.4	56.4	57.0	60.87	30.260	.266	- -
	3	Neptune	. .	1	V.	127 59 54.9	68.4	59.0	66.8	56.3	55.2	60.10	32.312	.318	30.256
	4	δ Cassiopeæ . .	. .	1	V.	69 24 55.4	70.2	65.1	72.0	59.0	60.3	63.67	35.136	.140	30.266
	5	μ Piscium	. .	1	V.	123 29 55.0	69.8	61.1	67.7	56.1	56.4	61.02	36.688	.689	- -
	6	ν Piscium	. .	1	VII.	124 4 55.7	70.2	62.0	69.4	57.5	58.1	62.15	29.900	.874	- -
	7	Lacaille 513 . . .	7.0	1	V.	156 54 54.9	68.7	60.8	68.5	56.1	55.2	60.70	33.422	.428	30.260
	8	Nadir 2h. 0m. . .	. .	5	. .	269 59 54.5	67.1	59.0	68.6	54.9	57.3	60.23	29.090	.093	- -
15	9	B. A. C. 2899 . .	. .	1	V.	109 9 55.2	70.5	60.8	67.1	58.7	58.4	61.78	30.483	.488	30.352
	10	Anon. 8h. 32m. 36s.	. .	1	V.	" " "	"	"	"	"	"	"	40.635	.637	- -
	11	Nadir	. .	5	. .	269 59 54.6	66.4	58.0	67.0	58.5	58.6	60.52	29.089	.092	- -
16	12	Sun N. L. . . .	. .	4	I–IV.	147 34 55.1	66.5	58.2	61.6	56.0	56.9	59.05	33.891	.917	30.444
	13	Sun S. L. . . .	. .	4	VI–IX.	148 4 54.8	66.0	58.5	63.0	56.3	55.8	59.07	29.327	.323	- -
	14	α Cassiopeæ, (Ref.) .	. .	4	I–IV.	286 54 55.0	63.3	56.6	59.4	56.2	56.1	57.77	30.663	.731	- -
	15	α Cassiopeæ . . .	. .	4	VI–IX.	73 4 55.1	68.0	59.7	66.5	60.3	60.8	61.73	27.435	.375	30.450
	16	Polaris, (Ref.) . .	. .	5	. .	319 39 54.4	64.8	58.0	58.2	57.1	55.7	58.03	27.508	.531	- -
	17	Polaris	. .	3	2–4.	40 19 54.2	67.0	59.5	66.1	58.1	61.0	60.98	30.481	.485	30.448
	18	Nadir 2h. 2m. . .	. .	3	. .	269 59 53.8	64.5	56.9	61.1	57.0	57.1	58.40*d*	28.995	.996	- -
19	19	Sun S. L. . . .	. .	4	I–IV.	148 44 57.5	66.3	58.6	62.3	58.2	59.2	60.35	24.409	.442	- -
	20	Sun N. L. . . .	. .	4	VI–IX.	148 14 57.7	66.4	59.7	62.0	59.1	59.9	60.80	28.961	.951	30.212
	21	ε Piscis Australis . .	. .	1	V.	156 34 58.0	68.4	60.3	65.9	59.0	60.5	62.02	26.910	.910	30.138
	22	Lacaille 9256 . .	. .	1	VI.	155 29 58.1	67.3	61.2	64.3	58.8	59.8	61.58	31.768	.757	30.128
	23	α Ursæ Majoris, S. P.	. .	5	VII–III.	11 29 56.0	67.5	62.0	66.8	59.0	58.8	61.68	35.113	.130	- -
	24	Nadir 2h.	. .	4	. .	269 59 57.6	67.0	60.9	66.1	58.5	60.7	61.80	29.133	.136	- -
23	25	Sun N. L. . . .	. .	4	I–IV.	149 9 56.5	71.1	62.7	69.3	57.0	54.8	61.90	35.075	.106	30.230
	26	Sun S. L. . . .	. .	4	VI–IX.	149 39 56.2	70.9	63.2	69.2	58.4	55.0	62.15	30.381	.376	- -
	27	Venus, centre . .	. .	5	III–VII.	153 59 56.0	69.0	61.0	66.1	56.8	55.1	60.67	35.585	.591	30.264
	28	26 Ceti	. .	1	V.	128 14 56.0	68.9	58.8	66.9	56.6	54.4	60.27	30.668	.670	30.400
	29	β Andromedæ . . .	. .	1	V.	93 59 56.2	71.2	61.9	70.9	59.0	58.0	62.87	30.828	.828	- -
	30	Polaris	. .	5	1–5.	40 19 56.5	70.9	63.7	73.5	59.7	60.0	64.05	30.666	.664	- -
	31	103 Piscium	. .	1	V.	112 59 55.1	69.5	61.9	69.1	57.0	55.1	61.28	35.427	.433	- -
	32	Lacaille 513 . . .	. .	1	V.	156 54 54.9	69.0	60.8	68.8	57.7	53.8	60.83	33.466	.472	30.412
	33	α Arietis	. .	1	V.	106 4 54.7	72.1	62.8	70.7	59.0	56.0	62.55	31.331	.337	- -
	34	19 Arietis	. .	1	V.	114 14 55.3	70.2	61.4	70.0	58.1	56.0	61.83	30.385	.391	30.420
	35	α Ceti	. .	1	V.	125 19 55.0	70.3	61.0	69.0	58.0	56.0	61.55	30.351	.357	- -
	36	53 Arietis	. .	1	V.	111 34 55.0	71.0	60.6	70.0	57.7	56.8	61.85	35.371	.377	30.438
	37	Nadir 3h. 15m. . .	. .	3	. .	269 59 55.2	69.0	59.5	70.5	56.5	56.2	61.15	29.142	.145	- -
24	38	Anon. 23h. 12m. 46s.	. .	1	V.	167 59 57.5	68.5	60.9	69.1	60.6	58.1	62.45	29.335	.341	- -
	39	Anon. 23h. 13m. 15s.	. .	1	V.	" " "	"	"	"	"	"	"	23.319	.325	30.525
	40	Anon. 23h. 20m. 26s.	7.2	1	V.	163 9 58.0	69.0	60.8	67.9	60.4	59.6	62.62	24.659	.661	- -
	41	B. A. C. 8213 . .	5.3	2	4, 5.	42 19 56.7	68.4	61.5	68.7	61.5	61.0	62.97	27.963	.961	- -
	42	B. A. C. 8287 . .	6.5	5	I–IX.	149 49 57.2	68.2	60.1	67.0	59.2	58.1	61.63	27.478	.491	- -
	43	O. Arg. S. 23096 .	8.0	4	VI–IX.	147 39 56.2	66.9	58.7	65.1	67.4	56.7	61.83	31.827	.805	30.524
	44	O. Arg. S. 23176 .	8.7	1	V.	" " "	"	"	"	"	"	"	33.155	.159	- -
	45	γ Pegasi, (Ref.) . .	. .	4	III–VI.	245 34 56.4	66.9	60.0	67.7	59.1	61.3	61.90	33.079	.089	- -
	46	Nadir 0h. 15m. . .	. .	4	. .	269 59 56.2	66.8	57.2	65.9	58.1	58.0	60.37	29.093	.097	- -
	47	Neptune	. .	5	I–IX.	127 59 56.1	66.8	57.0	63.9	57.9	57.0	59.80	26.361	.366	30.520
	48	B. A. C. 2899 . .	. .	1	V.	109 9 61.4	72.8	64.0	72.1	62.0	62.0	65.72	30.650	.652	30.510
	49	Anon. 8h. 32m. 36s.	. .	1	V.	" " "	"	"	"	"	"	"	40.804	.804	- -
	50	Nadir	. .	5	. .	269 59 60.8	72.3	62.4	72.6	62.7	61.2	65.33	29.296	.302	- -
25	51	Venus, centre . .	. .	5	III–VII.	153 54 55.0	66.0	56.1	62.9	56.3	55.1	58.87	32.213	.221	30.570
	52	α Lyræ	. .	1	VI.	90 14 54.9	68.3	57.1	64.1	60.5	59.4	60.72	31.538	.524	- -
	53	α Aquarii	. .	5	I–IX.	129 49 56.1	65.9	64.7	61.9	58.5	58.5	60.93	26.927	.928	30.499
	54	α Andromedæ, (Ref.) .	. .	4	I–IV.	259 24 57.1	65.1	58.0	64.0	61.1	60.8	61.02	24.361	.410	- -
	55	α Andromedæ . . .	. .	2	VIII, IX.	100 29 56.0	66.2	57.0	62.5	60.1	59.8	60.27	24.348	.293	30.500
	56	Lacaille 48 . . .	7.5	1	V.	153 14 56.5	65.2	58.0	62.0	59.0	58.2	59.82	30.101	.104	- -
	57	Neptune	. .	5	III–VII.	128 4 56.8	67.0	56.0	61.8	60.0	58.1	59.95	35.455	.460	- -
	58	α Cassiopeæ, (Ref.) .	. .	4	I–IV.	286 54 54.6	63.4	55.0	59.1	57.7	55.9	57.62	30.655	.722	- -
	59	α Cassiopeæ . . .	. .	4	VI–IX.	73 4 54.9	66.0	56.9	63.1	59.9	59.6	60.07	27.468	.408	- -
	60	Polaris	. .	3	V.	40 19 55.0	66.4	57.3	65.1	59.1	61.0	60.65	30.622	.625	30.492
	61	Nadir 2h. 20m. . .	. .	5	. .	269 59 55.1	64.8	55.0	61.5	58.0	58.1	58.75	29.056	.059	- -
29	62	Sun N. L. . . .	. .	4	I–IV.	150 14 57.4	64.8	57.0	59.9	59.2	61.4	59.95	32.326	.347	- -
	63	Sun S. L. . . .	. .	4	VI–IX.	150 44 57.0	64.5	57.0	60.1	59.9	60.9	59.90	27.697	.702	29.858
	64	Nadir 11h. 55m. . .	. .	2	. .	269 59 57.8	63.2	55.6	58.5	60.0	62.5	59.60	29.053	.056	- -
	65	O. Arg. S. 22723 .	6.0	1	V.	150 49 58.4	63.0	57.5	58.4	60.1	63.9	60.22	32.483	.488	29.828

Number.	THERM'S. At.	THERM'S. Ex.	Mic. zero.	CORRECTIONS FOR— Micrometer.	CORRECTIONS FOR— Object.	Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	°	°	r.	′ ″	′ ″	° ′ ″	° ″ ′	″		
1	. . .	. . .	29.085	— 6.3	+ 1 44.3	149 41 39.3	— 20 48 0.1	— 100.3	Ha.	
2	. . .	. . .	. .	37.0	2 1.0	153 16 24.8	— 24 22 45.6	98.9		
3	37.0	29.6	. .	1 41.3	+ 47.6	127 59 6.4	+ 0 54 32.8			
4	36.5	29.1	. .	3 9.7	— 23.1	69 21 30.8	59 32 8.4	106.0		
5	. . .	. . .	. .	3 58.2	+ 40.5	123 26 43.3	5 26 55.9	98.2		
6	. . .	. . .	. .	24.7	41.5	124 5 18.9	+ 4 48 20.3	95.8		
7	36.5	28.8	. .	2 16.1	2 23.0	156 55 7.6	— 28 1 28.4	— 88.5		
8										
9	36.3	32.5	29.075	44.3	21.2	109 9 38.6	+ 19 44 0.6	+ 70.5	H.*	* Prof. Hall.
10	. . .	. . .	. .	6 2.3	21.1	109 4 20.5	+ 19 49 18.7	+ 71.4		
11										Mean of mic readings recorded 28r.839. Wrong index supposed to have been read, and 0r.250 added.
12	42.5	44.1	29.047	2 32.6	1 26.6	147 33 53.0	— 18 56 26.7		Ha.	
13	. . .	. . .	. .	8.7	1 28.5	148 6 18.8				
14	. .	36.7	. .	— 52.8	+ 18.5	286 54 23.4	+ 55 48 2.7	— 114.7		
15	41.5	36.7	. .	+ 52.4	— 18.5	73 5 35.6	55 48 3.6			
16	. . .	. . .	. .	+ 47.5	+ 1 11.6	319 41 57.1	88 35 36.3	107.8		At 1h. 4m. 30s., 5m. 18s., 6m. 45s., 7m. 43s., and 8m. 35s.
17	40.5	36.1	. .	— 45.1	— 1 11.6	40 18 4.2	+ 88 35 35.0			
18										
19	. . .	. . .	29.078	+ 2 25.2	+ 1 30.3	148 48 55.8	— 19 39 5.2		N.	
20	50.5	44.3	. .	4.0	1 28.2	148 16 33.0				
21	45.5	40.1	. .	+ 1 7.9	2 17.2	156 38 27.1	27 44 47.9	92.1		
22	44.7	39.4	. .	— 1 23.9	+ 2 10.3	155 30 47.9	— 26 37 8.7	— 93.4		Bar. and thermometer read at 23h. 7m.
23	. . .	. . .	. .	3 9.6	— 4 46.7	11 22 5.3	+ 62 28 26.1	+ 115.3		Good observation for so low a star.
24										
25	33.5	30.5	29.108	3 7.9	+ 1 34.5	149 8 28.5	— 20 31 4.6		Ha.	Poor observation; sun very unsteady.
26	. . .	. . .	. .	39.7	1 36.7	149 40 59.1				
27	38.0	32.3	. .	3 23.1	1 58.8	153 58 36.3	— 25 4 57.1			
28	29.5	24.8	. .	48.9	49.0	128 15 0.3	+ 0 38 38.9	— 101.1		
29	. . .	. . .	. .	53.9	+ 4.3	93 59 13.2	34 54 26.0	108.1		
30	. . .	. . .	. .	48.8	— 1 13.3	40 18 1.9	88 35 37.3	110.0		
31	. . .	. . .	. .	3 18.2	+ 26.4	112 57 9.4	+ 15 56 29.8	98.4		
32	29.5	23.5	. .	2 16.8	2 25.3	156 55 9.3	— 28 1 30.1	86.8		
33	. . .	. . .	. .	1 9.8	18.0	106 4 10.7	+ 22 49 28.5	92.7		
34	29.5	23.4	. .	40.2	28.1	114 14 49.7	14 38 49.5	87.0		
35	. . .	. . .	. .	39.1	44.3	125 20 6.7	3 33 32.5	72.7		
36	29.5	22.7	. .	3 16.4	24.7	111 32 10.1	+ 17 21 29.1	72.6		
37										
38	. . .	. . .	29.085	— 8.0	4 43.4	168 4 37.8	— 39 10 58.6	92.0	N.	
39	36.5	30.8	. .	+ 3 0.5	4 44.6	168 7 47.5	39 14 8.3	92.0		
40	. . .	. . .	. .	2 18.6	+ 3 22.2	163 15 43.4	— 34 22 4.2	94.0		
41	. . .	. . .	. .	35.2	— 1 7.7	42 19 30.4	+ 86 34 8.8	121.6		
42	. . .	. . .	. .	+ 49.9	+ 1 46.1	149 52 37.6	— 20 58 58.4	99.1		
43	36.0	29.5	. .	— 1 25.2	1 37.4	147 40 14.0	18 46 34.8	99.8		
44	. . .	. . .	. .	2 7.7	+ 1 37.4	147 39 31.5	— 18 45 52.3	99.8		
45	. . .	. . .	. .	— 2 5.5	— 28.1	245 32 28.3	+ 14 26 7.5	— 109.9		
46										
47	35.0	28.9	. .	+ 1 25.2	+ 48.2	128 2 13.2	0 51 26.0			
48	27.8	23.5	29.132	— 47.6	21.8	109 9 39.9	19 43 59.3	+ 70.9	H.*	* Prof. Hall.
49	. . .	. . .	. .	6 5.7	21.6	109 4 21.6	+ 19 49 17.6	+ 71.8		
50										Mean of mic. readings recorded 29r.046.
51	69.0	43.5	29.098	1 37.8	1 56.5	153 55 17.2	— 25 1 38.0		Ha.	Bar. and at. ther. interpolated from Met. Reg.
52	. . .	. . .	. .	— 1 16.0	0.2	90 13 44.9	+ 38 39 54.3	— 32.4		
53	40.7	38.0	. .	+ 1 8.0	+ 50.7	129 51 59.6	— 0 58 20.4	95.2	N.	Very steady.
54	. . .	. . .	. .	2 26.9	— 11.4	259 27 16.5	+ 28 20 55.8	113.9	Ha.	
55	39.5	36.0	. .	+ 2 30.6	+ 11.4	100 32 42.2	+ 28 20 57.0			
56	. . .	. . .	. .	— 31.5	2 0.5	153 16 28.8	— 24 22 49.6	97.4		
57	. . .	. . .	. .	3 19.3	47.6	128 2 28.2	+ 0 51 11.0			
58	. . .	. . .	. .	— 50.9	+ 18.6	286 54 25.3	55 48 4.6	116.0		
59	. . .	. . .	. .	+ 53.0	— 18.6	73 5 34.4	55 48 4.8			
60	39.5	34.1	. .	— 47.8	— 1 12.0	40 18 0.8	+ 88 35 38.4	110.5		Barometer and thermometer read at 1h. 17m.
61										Nov. 26. Lengthened focus about .02 in. and took readings for inequality of screw. N.
62	. . .	. . .	29.073	— 1 42.6	+ 1 30.9	150 14 48.2	— 21 37 22.8		N.	
63	53.0	63.2	. .	+ 43.0	1 33.0	150 47 15.9				
64										Microscopes and instrument covered with moisture.
65	57.5	54.4	. .	— 1 47.0	+ 1 42.4	150 49 55.6	— 21 56 16.4	— 97.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
Nov. 29	1	Anon. 23h. 20m. 26s.	5.8	1	V.	163 9 57.7	61.5	56.1	57.7	58.0	63.2	59.03	23.980	.981	. .
	2	B. A. C. 8213, (Ref.)	. .	4	. .	317 39 56.4	59.1	54.6	52.5	56.1	60.0	56.45	29.973	.980	. .
	3	B. A. C. 8314, (Ref.)	. .	2	IV, V.	304 44 57.6	61.9	56.2	55.3	59.1	62.5	58.77	27.856	.867	. .
	4	B. A. C. 8314 . .	. .	2	VI, VII.	55 14 57.7	61.7	58.3	60.5	61.7	66.0	60.98	30.352	.316	29.828
	5	Weisse XXIII, 1267	. .	5	I–IX.	128 54 58.0	62.9	55.2	56.4	59.4	63.8	59.28	26.484	.489	. .
	6	Anon. 0h. 9m. 56s. .	9.5	3	III–VII.	“ “ “	“	“	“	“	“	“	35.777	.777	. .
	7	Nadir 0h. 15m. . .	. .	4	. .	269 59 58.5	61.3	56.5	57.3	60.1	64.4	59.68	29.064	.066	. .
	8	Neptune	. .	5	I–IX.	127 59 57.8	62.0	55.3	56.1	58.4	62.0	58.60	24.117	.119	29.829
	9	Anon. 0h. 31m. 43s.	8.0	1	VI.	161 34 58.0	63.3	59.2	59.0	58.9	63.0	60.23	24.259	.261	. .
	10	20 Ceti	4.0	5	I–IX.	130 44 57.3	62.0	54.9	55.9	57.4	60.7	58.03	28.165	.170	. .
	11	O. Arg. S. 613 . .	7.0	1	V.	157 54 57.5	63.5	58.1	58.0	59.1	61.8	59.67	30.816	.816	. .
	12	Polaris, (Ref.) . .	. .	4	. .	319 39 56.6	60.8	55.8	54.5	56.6	61.0	57.55	27.298	.309	. .
	13	Polaris	. .	1	5.	40 19 57.0	62.9	58.9	62.0	59.5	66.6	61.15	30.801	.779	29.832
	14	Lacaille 492 . . .	6.2	4	III–VII.	162 59 57.1	63.2	57.5	59.2	58.5	62.6	59.68	37.413	.426	. .
	15	ε Cassiopeæ, (Ref.) .	. .	4	I–IV.	294 4 57.5	61.2	. .	55.8	. .	62.1	58.65	26.415	.482	. .
	16	ε Cassiopeæ . . .	. .	4	VI–IX.	64 54 55.9	61.8	57.6	58.6	60.4	65.0	59.88	31.726	.666	. .
	17	α Arietis	. .	4	I–IV.	106 4 58.0	56.1	58.8	60.5	62.1	65.8	61.88	31.220	.229	. .
	18	α Arietis, (Ref.) . .	. .	3	VII–IX.	253 54 57.7	63.0	60.3	61.7	60.4	66.8	61.65	27.063	.061	. .
	19	O. Arg. S. 1421 . .	7.8	1	V.	145 29 57.0	62.7	55.9	55.2	58.8	62.0	58.60	31.524	.529	29.828
	20	ι Cassiopeæ . . .	. .	4	I–IV.	62 4 56.6	63.2	57.9	58.0	60.3	65.1	60.18	26.407	.371	. .
	21	ι Cassiopeæ, (Ref.) .	. .	4	VI–IX.	297 54 57.3	63.5	57.3	54.6	59.4	61.5	58.93	31.737	.780	. .
	22	Mars S. L. . . .	. .	3	I–IX.	105 9 58.0	66.5	58.5	62.1	61.9	66.4	62.23	29.525	.515	29.830
	23	Mars N. L. . . .	. .	2	III, VII.	“ “ “	“	“	“	“	“	“	30.087	.084	. .
	24	Fides	. .	1	V.	101 19 58.4	65.0	57.2	60.8	60.7	65.6	61.28	30.024	.025	. .
	25	Uranus	. .	5	I–IX.	105 14 58.5	66.5	59.7	62.0	62.9	67.0	62.77	28.944	.933	29.833
30	26	Neptune	. .	1	VI.	128 4 58.8	65.0	55.5	59.3	58.4	63.1	60.02	33.446	.445	30.102
	27	Polaris	. .	3	V.	40 19 55.9	63.9	58.1	62.0	58.8	64.8	60.58	30.759	.760	30.116
	28	Anon. 1h. 28m. 46s.	8.0	1	VI.	152 59 59.0	64.9	58.8	61.9	58.4	63.5	61.08	28.480	.480	. .
	29	ε Cassiopeæ, (Ref.) .	. .	4	I–IV.	294 4 60.0	65.2	59.3	60.1	60.0	64.1	61.45	26.501	.567	. .
	30	ε Cassiopeæ . . .	. .	4	VI–IX.	65 54 60.0	66.0	61.8	63.8	62.9	68.1	63.77	31.836	.775	. .
	31	α Arietis, (Ref.) . .	. .	4	I–IV.	253 54 59.3	65.1	61.6	63.0	60.6	66.1	62.62	27.029	.055	. .
	32	α Arietis	. .	4	VI–IX.	106 4 59.0	68.8	60.0	62.8	62.3	65.5	63.07	31.299	.281	30.136
	33	Lacaille 803 . .	6.5	1	V.	152 29 59.2	66.1	59.2	61.9	60.0	63.3	61.62	35.451	.457	30.156
	34	Anon. 2h. 47m. 44s.	8.0	1	V.	152 34 59.0	66.1	59.5	61.9	59.2	63.2	61.48	31.548	.552	. .
	35	O. Arg. S. 1910 . .	8.0	1	V.	“ “ “	“	“	“	“	“	“	23.550	.554	. .
	36	Anon. 2h. 58m. 52s.	7.5	1	V.	155 9 58.5	67.1	59.3	61.2	60.1	62.4	61.43	29.164	.168	. .
	37	Lacaille 996 . . .	7.0	1	V.	152 59 59.0	66.9	60.1	63.0	60.0	63.8	62.13	15.714	.715	. .
	38	Lacaille 1041 . .	7.0	1	V.	“ “ “	“	“	“	“	“	“	42.780	.780	. .
	39	Lacaille 1113 . .	7.0	1	V.	152 49 58.8	67.1	60.0	62.5	60.2	63.1	61.95	32.135	.139	30.156
	40	η Tauri	. .	1	V.	105 14 59.0	69.1	60.8	63.3	63.0	65.7	63.48	34.437	.443	. .
	41	Nadir 3h. 50m. . .	. .	3	. .	269 59 59.1	66.1	58.7	63.0	60.0	65.1	62.00	29.134	.137	. .
	42	Mars, centre . . .	. .	5	III–VII.	105 9 59.7	66.9	60.3	62.0	62.0	65.5	62.73	27.979	.977	. .
	43	Weisse N. IV, 1047 .	9.0	1	V.	101 19 59.0	65.8	58.5	61.0	60.2	64.0	61.42	36.050	.052	30.152
	44	Anon. 5h. 33m. 5s. .	9.0	1	V.	107 34 58.6	69.6	60.7	63.7	61.4	63.0	62.83	22.731	.732	. .
	45	Uranus	. .	1	V.	105 14 58.1	70.2	60.8	65.1	63.2	65.1	63.75	29.024	.026	30.154
Dec. 1	46	Sun S. L. . . .	. .	4	I–IV.	151 4 58.6	68.1	60.2	65.9	58.9	61.5	62.20	30.035	.053	. .
	47	Sun N. L. . . .	. .	4	VI–IX.	150 29 58.9	68.5	61.9	66.5	59.9	62.0	62.95	25.157	.164	30.242
3	48	O. Arg. S. 1535 . .	9.0:	1	V.	147 39 58.6	65.8	59.4	63.0	57.4	62.7	61.15	31.515	.520	29.777
	49	σ Ceti	4.0	1	V.	144 44 58.8	65.6	57.6	60.5	58.6	62.6	60.62	33.535	.539	. .
	50	Lacaille 803 . . .	6.2	1	V.	152 24 58.0	65.3	59.5	62.9	58.0	62.6	61.05	25.782	.782	. .
	51	Nadir 2h. 40m. .	. .	4	. .	269 59 57.5	63.2	57.6	62.0	58.9	63.0	60.37	29.068	.071	. .
	52	Anon. 2h. 47m. 44s.	7.8	1	V.	152 34 58.2	65.5	60.0	62.8	57.9	62.5	61.15	31.454	.459	29.775
	53	α Ceti	. .	5	I–IX.	125 19 58.1	66.0	59.5	61.3	59.1	62.5	61.08	30.100	.101	. .
	54	Anon. 2h. 58m. 53s.	7.5	1	V.	155 9 57.6	65.8	59.0	62.0	58.7	61.3	60.73	29.036	.038	. .
	55	Lacaille 996 . . .	5.8	1	V.	153 4 57.8	62.9	58.8	62.0	57.3	61.6	60.07	25.180	.185	. .
	56	B. A. C. 1012 . .	5.5	5	I–IX.	155 29 57.8	64.5	59.4	62.0	58.6	60.5	60.47	33.300	.319	. .
	57	B. A. C. 1039 . .	4.5	1	V.	153 29 57.8	64.8	59.0	61.3	56.6	61.4	60.15	31.678	.680	. .
	58	Lacaille 1113 . .	6.7	1	V.	152 49 57.6	64.7	59.1	62.7	57.5	61.7	60.55	32.025	.027	29.781
	59	O. Arg. S. 2388 . .	9.0	5	I–IX.	“ “ “	“	“	“	“	“	“	29.383	.400	. .
	60	O. Arg. S. 2468 . .	8.8	1	IX.	152 34 58.1	65.5	60.2	63.1	58.0	62.2	61.18	33.522	.525	. .
	61	τ^6 Eridani	3.8	5	I–IX.	“ “ “	“	“	“	“	“	“	36.931	.942	. .
	62	ζ Ursæ Minoris, S. P.	. .	5	V½–IV½.	27 9 56.4	65.4	59.6	65.0	57.6	61.0	60.83	32.876	.879	29.772
	63	Anon. 4h. 4m. 1s. .	6.7	5	I–IX.	148 14 56.7	62.5	57.6	60.5	55.3	58.7	58.55	31.627	.638	. .
	64	O. Arg. S. 2939 . .	6.0:	1	IX.	151 19 56.9	64.0	58.5	62.1	56.9	59.8	59.70	26.665	.665	. .
	65	ζ Ursæ Minoris, S. P.	. .	3	VII–V.	24 59 55.5	64.3	59.0	64.6	55.8	59.9	59.85	29.711	.731	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29.073	+ 2 39.5	+ 3 7.9	163 15 46.4	− 34 22 7.2	− 93.5	N.	
2	. .	. .	. .	− 28.4	− 1 2.9	317 40 30.9	+ 86 34 10.2	122.4		Wires 1, 2, 4, and 23h. 29m. 59s.
3	. .	. .	. .	+ 37.8	+ 39.9	304 46 16.4	73 39 55.7	122.0		
4	57.0	54.2	. .	− 38.9	− 39.9	55 13 42.1	+ 73 39 57.1			
5	. .	. .	. .	+ 1 21.0	+ 46.4	128 57 6.6	− 0 3 27.4	105.4		
6	. .	. .	. .	− 3 30.0	46.3	128 52 15.5	+ 0 1 23.7	105.0		
7										
8	56.7	53.4	. .	+ 2 35.2	44.8	128 3 18.6	+ 0 50 20.6			
9	. .	. .	. .	2 30.8	2 51.4	161 40 22.4	− 32 46 43.2	93.3		
10	. .	. .	. .	+ 28.3	49.6	130 46 15.9	1 52 36.7	101.3		
11	. .	. .	. .	− 54.6	2 20.7	157 56 25.8	− 29 2 46.6	91.6		
12	. .	. .	. .	+ 55.3	+ 1 7.7	319 42 0.5	+ 88 35 39.8	111.6		1h. 8m. 19s., and wires 1–V.
13	56.5	53.3	. .	− 53.4	− 1 7.7	40 18 0.0	+ 88 35 39.2			
14	. .	. .	. .	− 4 21.7	+ 3 5.2	162 58 43.1	− 34 5 3.9	84.8		Wire VI omitted.
15	. .	. .	. .	+ 1 21.2	+ 25.8	294 6 45.6	+ 63 0 24.9	102.3		Very steady.
16	. .	. .	. .	− 1 21.2	− 25.7	65 53 12.9	63 0 26.3			
17	. .	. .	. .	− 1 7.6	+ 16.6	106 4 10.9	22 49 28.3	92.8		
18	. .	. .	. .	+ 1 3.0	− 16.6	253 55 48.0	+ 22 49 27.3			
19	56.0	53.2	. .	− 1 17.0	+ 1 23.5	145 30 5.1	− 16 36 25.9	81.8		
20	. .	. .	. .	+ 1 24.7	− 30.5	62 5 54.3	+ 66 47 44.9	92.0		
21	. .	. .	. .	− 1 24.8	+ 30.5	297 54 4.6	66 47 43.9			Nov. 29. Very fine night, but the wires of microscopes E and F are bent by damp.
22	55.5	54.6	. .	13.8	11.4	105 9 59.7	23 43 48.4			
23	. .	. .	. .	31.7	11.4	105 9 41.9				Whole revolutions recorded, S. L., 30; N. L., 31.
24	. .	54.2	. .	− 29.8	11.5	101 19 42.9	27 33 56.3			
25	56.0	53.3	. .	+ 4.4	15.6	105 15 22.7	23 38 16.5			
26	59.0	56.0	. .	− 2 17.0	+ 45.0	128 3 28.0	0 50 11.2		Ha.	Very faint.
27	58.0	55.4	. .	− 52.8	− 1 8.1	40 17 59.6	+ 88 35 39.6	111.8		
28	. .	. .	. .	+ 18.6	+ 1 53.3	153 2 12.9	− 24 8 33.7	88.4		
29	. .	. .	. .	+ 1 18.5	+ 26.0	294 6 45.9	+ 63 0 25.2	102.6		
30	. .	. .	. .	− 1 24.7	− 26.0	65 53 13.0	63 0 26.2			
31	. .	. .	. .	+ 1 3.2	− 16.8	253 55 49.0	22 49 28.3	92.8		
32	57.5	53.2	. .	− 1 9.2	+ 16.8	106 4 10.6	+ 22 49 28.6			
33	57.0	52.0	. .	3 20.0	1 51.3	152 28 32.8	− 23 34 53.6	74.4		
34	. .	. .	. .	− 1 17.7	1 52.0	152 35 35.7	23 41 56.5	69.8		
35	. .	. .	. .	+ 2 52.9	1 52.2	152 39 46.5	23 46 7.3	69.2		
36	. .	. .	. .	− 3.0	2 5.6	155 12 4.0	26 18 24.8	66.0		
37	. .	. .	. .	+ 6 57.6	1 54.8	153 8 54.5	24 15 15.3	64.6		
38	. .	. .	. .	− 7 9.5	1 53.7	152 54 46.3	24 1 7.1	62.4		
39	56.0	50.1	. .	1 36.1	1 53.5	152 50 19.3	− 23 56 40.1	58.5		
40	. .	. .	. .	− 2 48.2	15.9	105 12 31.1	+ 23 41 8.1	57.5		
41										
42	. .	. .	. .	+ 34.3	11.9	105 10 48.9	23 42 50.3			
43	55.0	45.6	. .	− 3 38.7	11.8	101 16 34.5	27 37 4.7	26.9		
44	. .	. .	. .	+ 3 18.7	18.8	107 38 40.3	21 14 58.9	5.6		
45	52.5	44.8	. .	+ 1.5	16.0	105 15 21.2	+ 23 38 18.0			
46	. .	. .	. .	− 30.7	1 37.1	151 6 8.6	− 21 56 15.3		N.	
47	53.2	55.7	. .	+ 2 2.5	1 35.0	150 33 40.4				
48	54.7	53.0	29.059	− 1 17.1	1 30.5	147 40 14.5	18 46 35.3	78.5		
49	. .	. .	. .	− 2 20.5	1 21.1	144 44 1.2	15 50 22.0	77.1		
50	. .	. .	. .	+ 1 42.6	1 49.8	152 28 33.4	23 34 54.2	73.8		
51										
52	54.5	51.8	. .	− 1 15.2	1 50.5	152 35 36.4	− 23 41 57.2	69.2		
53	. .	. .	. .	− 32.6	40.8	125 20 9.2	+ 3 33 30.0	71.9		Very good.
54	. .	. .	. .	+ 0.7	2 3.5	155 12 4.9	− 26 18 25.7	65.4		
55	. .	. .	. .	+ 2 1.4	1 53.3	153 8 54.7	24 15 15.5	64.0		
56	. .	. .	. .	− 2 13.5	2 5.7	155 29 52.6	26 36 13.4	62.2		
57	. .	. .	. .	1 22.1	1 55.1	153 30 33.1	24 36 53.9	61.0		
58	54.0	50.7	. .	1 33.0	1 52.0	152 50 19.5	23 56 40.3	57.8		
59	. .	. .	. .	10.9	1 52.1	152 51 41.7	23 58 2.5	55.6		
60	. .	. .	. .	2 19.9	1 50.7	152 34 31.9	23 40 52.7	53.5		
61	. .	. .	. .	4 7.0	+ 1 50.6	152 32 44.7	− 23 39 5.5	− 51.9		
62	53.5	50.4	. .	1 59.7	− 1 52.3	27 6 8.8	+ 78 12 29.6	+ 54.1		
63	. .	. .	. .	− 1 20.8	+ 1 33.1	148 15 10.8	− 19 21 31.6	− 43.9		
64	. .	. .	. .	+ 1 15.0	+ 1 45.5	151 23 0.2	− 22 29 21.0	− 41.3		
65	. .	. .	. .	− 21.1	− 2 3.5	24 57 35.2	+ 76 3 56.0	+ 38.0		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
Dec. 3	1	Mars, N. L. . . .	. .	3	I-IX.	105 14 56.0	65.4	58.2	63.0	58.9	62.5	60.67	30.729	.716	29.732
	2	Mars, S. L. . . .	. .	2	III, VII.	" " "	"	"	"	"	"	"	30.131	.129	. .
	3	O. Arg. S. 3325 . .	8.7	1	V.	152 59 57.4	64.4	58.9	63.0	56.9	61.0	60.27	32.955	.956	. .
	4	Fides	9.3	1	V.	101 19·57.3	65.3	57.5	62.5	57.7	62.4	60.45	24.265	.271	. .
	5	11 Orionis	. .	4	I-IV.	113 39 57.3	65.9	58.8	62.3	58.0	61.8	60.68	28.151	.162	. .
	6	11 Orionis, (Ref.) . .	. .	4	VI-IX.	246 19 56.5	63.9	59.1	63.6	59.5	63.6	61.03	30.070	.067	29.778
5	7	Sun S. L. . . .	. .	4	I-IV.	151 39 57.0	70.8	62.0	71.0	58.4	59.1	63.05	34.777	.795	30.024
	8	Sun N. L. . . .	. .	4	VI-IX.	151 4 58.0	71.9	59.0	71.4	63.1	59.8	63.87	29.913	.915	. .
	9	Nadir 3h. 18m. . .	. .	3	. .	269 59 58.1	69.1	60.9	66.9	61.0	62.3	63.05	29.186	.191	. .
6	10	Venus	. .	5	III-VII.	152 44 59.2	69.0	61.6	66.0	62.0	63.3	63.52	33.988	.992	29.857
	11	O. Arg. S. 22687 .	. .	1	V.	152 44 56.5	65.0	58.2	62.3	57.9	60.9	60.13	26.958	.959	29.878
	12	Anon. 23h. 13m. 29s.	. .	1	V.	163 29 56.6	65.3	59.2	61.5	59.3	60.5	60.40	31.435	.641	. .
	13	Anon. 23h. 20m. 26s.	7.5	1	V.	163 14 57.0	66.3	59.5	63.4	59.6	61.6	61.23	33.802	.802	. .
	14	B. A. C. 8213 . .	. .	4	. .	42 19 57.4	67.0	61.1	66.0	63.0	64.5	63.17	28.145	.148	. .
	15	Moon S. L. . . .	. .	5	I-IX.	128 49 57.8	66.9	58.4	62.3	60.0	61.9	61.22	33.471	.475	29.885
	16	O. Arg. S. 23082 .	. .	1	VI.	147 54 56.0	63.2	57.1	59.5	56.5	58.1	58.40	29.808	.803	. .
	17	γ Pegasi	. .	5	I-IX.	114 29 56.2	66.2	59.0	62.8	60.1	62.2	61.12	34.764	.757	. .
	18	Anon. 0h. 11m. 9s. .	. .	1	V.	128 59 55.9	64.8	55.8	60.0	58.0	60.5	59.17	27.534	.538	29.889
	19	Neptune . . .	. .	5	I-IX.	128 4 56.7	65.3	56.5	60.6	59.0	60.1	59.70	31.981	.982	. .
	20	B. A. C. 563 . . .	. .	5	I-IX.	167 54 57.0	66.9	61.0	66.0	60.6	60.6	62.02	30.283	.309	29.884
	21	50 Cassiopeæ, (Ref.) .	. .	2	VI, VII.	302 54 55.8	64.6	59.9	61.0	58.1	59.4	59.80	34.995	.001	. .
	22	α Draconis, S. P. . .	. .	5	VII-III.	13 59 54.5	64.6	57.9	62.5	57.0	58.1	59.10	31.594	.613	. .
	23	Nadir 2h. 12m. . .	. .	4	. .	269 59 56.8	65.6	58.9	63.7	60.1	62.2	61.22	29.125	.128	. .
	24	B. A. C. 765 . .	5.3	1	VI.	163 14 57.2	67.5	60.5	65.4	61.0	61.5	62.18	28.112	.111	29.884
	25	5 Ursæ Minoris, S. P.	. .	1	V.	25 14 56.2	65.9	60.2	65.7	59.8	59.0	61.13	32.298	.304	. .
	26	γ Ceti	. .	5	I-IX.	126 14 56.1	65.6	56.7	61.9	58.0	59.6	59.65	32.918	.917	. .
	27	Anon. 2h. 42m. 58s.	8.0	1	V.	163 9 56.1	65.4	59.0	63.9	58.5	60.5	60.57	26.689	.690	. .
	28	α Ceti	. .	3	III-VII.	125 19 56.0	66.3	58.7	62.4	58.8	60.5	60.45	30.140	.143	29.887
	29	B. A. C. 4982, S. P.	. .	3	5-1.	31 59 55.4	66.6	59.9	65.4	59.4	60.6	61.22	31.166	.171	. .
	30	11 Ursæ Minoris, S. P.	. .	5	VII-III.	21 14 55.3	66.3	59.5	66.1	60.8	60.0	61.33	29.260	.290	. .
	31	γ^2 Ursæ Minoris, S. P.	. .	5	VII-III.	" " "	"	"	"	"	"	"	29.185	.214	29.884
	32	Mars, centre . . .	. .	5	I-IX.	105 19 55.0	66.9	59.1	65.2	59.6	61.4	61.20	31.610	.602	29.883
8	33	Moon S. L. . . .	. .	5	I-IX.	119 19 59.3	70.1	61.0	67.6	58.0	58.5	62.42	31.176	.175	30.305
	34	Nadir 1h. 40m. . .	. .	4	. .	269 59 57.6	69.8	61.3	70.4	58.2	60.6	62.98	29 172	.176	. .
12	35	Sun N. L. . . .	. .	4	I-IV.	151 44 57.8	74.2	64.2	73.6	60.5	58.8	64.85	30.142	.164	30.070
	36	Sun S. L. . . .	. .	4	VI-IX.	152 19 58.2	75.0	65.0	74.8	62.0	60.0	65.83	34.727	.730	. .
	37	α Lyræ	. .	1	V.	90 14 55.1	72.0	60.5	69.5	59.3	58.9	62.55	31.392	.398	. .
	38	Mercury, centre . .	. .	1	V.	154 19 55.1	70.0	61.1	68.9	57.3	57.0	61.57	29.398	.404	30.094
	39	Venus, centre . .	. .	1	V.	151 29 55.2	67.8	59.8	67.8	56.5	57.1	60.70	33.602	.605	30.132
	40	ζ^1 Piscium	. .	1	IV.	122 4 55.0	68.2	59.7	67.8	56.4	55.5	60.43	36.229	.241	. .
	41	ζ^2 Piscium	. .	1	VI.	" " "	"	"	"	"	"	"	36.616	.611	. .
	42	Polaris	. .	3	2-4.	40 19 55.0	70.0	61.6	72.4	57.9	60.0	62.82	30.713	.713	30.284
	43	Nadir 2h. 35m. . .	. .	4	. .	269 59 55.3	68.4	59.5	69.3	57.0	56.8	61.05	29.105	.108	. .
	44	Mars, centre . . .	. .	1	V.	105 29 55.0	72.0	62.3	70.8	59.8	58.2	63.02	31.480	.485	30.338
	45	α Tauri	. .	1	V.	112 39 55.0	69.5	59.1	68.7	57.0	56.5	60.97	30.754	.754	. .
	46	Moon S. L. . . .	. .	5	III-VII.	109 49 55.5	70.0	60.8	69.4	57.5	56.0	61.53	34.558	.559	30.324
	47	Uranus	. .	1	V.	105 14 54.9	71.1	61.2	71.0	59.0	57.8	62.50	28.370	.376	30.326
14	48	Polaris	. .	3	5.	40 19 53.7	66.0	57.0	63.0	59.8	62.8	60.38	30.859	.850	30.014
	49	Anon. 2h. 47m. 46s.	8.0	1	VIII.	152 29 54.9	65.0	56.5	61.1	58.9	60.1	59.42	21.959	.956	30 042
	50	τ^3 Eridani	6.0	1	VIII.	152 59 54.8	64.1	56.7	60.2	57.9	59.0	58.78	26.879	.875	. .
	51	O. Arg. S. 2173 . .	9.0	1	V.	147 54 56.0	65.0	56.7	61.0	58.6	55.8	58.85	47.439	.445	. .
	52	O. Arg. S. 2189 . .	6.0	1	V.	" " "	"	"	"	"	"	"	28.575	.578	. .
	53	τ^4 Eridani	5.0	1	V.	151 4 55.6	65.5	57.2	61.4	59.5	59.9	59.85	25.242	.247	. .
	54	Lacaille 1124 . .	7.0	1	VI.	154 59 56.4	66.8	57.0	61.0	60.3	60.8	60.38	36.610	.608	. .
	55	Anon. 3h. 26m. 45s.	8.5	1	VII.	" " "	"	"	"	"	"	"	31.670	.667	. .
	56	Anon. 3h. 32m. 3s. .	9.0	1	VII.	151 19 57.0	67.0	58.9	63.2	60.8	60.1	61.17	20.646	.642	30.066
	57	O. Arg. S. 2488 . .	9.0	1	V.	" " "	"	"	"	"	"	"	40.820	.820	. .
	58	τ^6 Eridani	6.0	1	V.	152 34 56.8	66.9	58.9	62.5	60.0	61.7	61.13	37.040	.042	. .
	59	O. Arg. S. 2663 . .	8.0	1	V.	155 29 55.1	65.1	57.2	61.0	59.7	59.1	59.53	32.514	.519	. .
	60	Anon. 3h. 54m. 55s.	9.0	1	V.	156 4 55.7	66.1	56.6	61.3	59.4	59.4	59.75	29.740	.741	. .
	61	Mars, centre . . .	. .	5	III-VII.	105 34 55.9	68.8	59.0	64.1	62.9	63.4	62.35	34.434	.437	30.078
	62	Nadir 4h. 18m. . .	. .	4	. .	269 59 57.0	66.2	57.2	63.1	60.7	62.7	61.15	29.141	.107	. .
20	63	Nadir 0h. 20m. . .	. .	4	. .	269 59 57.1	68.3	60.4	67.8	59.8	59.5	62.15	29.188	.192	. .
	64	Anon. 0h. 49m. 32s.	. .	1	V.	155 54 57.1	68.8	61.0	67.5	58.9	57.2	61.75	26.729	.730	30.022

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	53.0	49.6	29.059	— 51.9	+ 11.6	105 14 20.3	+ 23 39 9.7		N.	Barometer reduced for 29.782.
2	. .	. .	. .	33.5	11.6	105 14 38.7				
3	. .	. .	. .	— 2 2.1	1 53.1	152 59 51.2	— 24 6 12.0	— 30.6		Whole number of degrees recorded 151.
4	. .	. .	. .	+ 2 30.0	11.7	101 22 42.1	+ 27 30 57.1			
5	. .	. .	. .	+ 28.1	+ 25.5	113 40 54.2	15 12 45.0	22.8		
6	52.5	47.3	. .	— 31.6	— 25.5	246 19 3.9	+ 15 12 43.2			
7	41.0	43.4	29.090	2 58.8	+ 1 41.4	151 38 45.6	— 22 28 52.1		Ha.	
8	. .	. .	. .	25.8	1 39.0	151 6 17.0				
9										
10	48.0	52.9	. .	— 2 33.6	1 45.2	152 44 15.1	23 50 35.9		N.	
11	49.0	46.7	. .	+ 1 6.8	1 53.1	152 48 0.0	23 54 20.8	95.6		
12	. .	. .	. .	— 1 19.9	3 14.6	163 31 55.1	34 38 15.9	92.5		
13	. .	. .	. .	— 2 27.6	+ 3 11.6	163 15 45.2	— 34 22 6.0	93.0		
14	. .	. .	. .	+ 29.5	— 1 4.2	42 19 28.4	+ 86 34 10.8	123.3		Readings at 23h. 27m. 0s., 27m. 35s., 28m. 5s., and wire V.
15	48.5	45.4	. .	— 2 17.4	— 52 18.1	127 55 25.7	+ 0 58 13.5			
16	. .	. .	. .	22.3	+ 1 33.3	147 56 9.4	— 19 2 30.2	98.7		
17	. .	. .	. .	— 2 57.6	26.7	114 27 30.2	+ 14 26 9.0	109.6		
18	47.5	44.2	. .	+ 48.6	47.6	129 1 35.3	— 0 7 56.1	104.5		
19	. .	. .	. .	— 1 30.6	45.8	128 4 14.9	+ 0 49 24.3			
20	45.0	42.0	. .	38.2	4 28.9	167 58 52.7	— 39 5 13.5	80.8		
21	. .	. .	. .	3 5.2	+ 38.1	302 52 32.7	+ 71 46 12.0	— 102.4		Very steady.
22	. .	. .	. .	— 1 19.1	— 3 53.2	13 54 46.8	+ 65 1 7.6	+ 97.5		
23			. .							
24	44.5	40.4	. .	+ 30.7	+ 3 14.4	163 18 47.2	— 34 25 8.0	— 73.4		
25	. .	. .	. .	— 1 40.7	— 2 5.1	25 11 15.3	+ 76 17 36.1	+ 89.7		
26	. .	. .	. .	— 1 59.9	+ 43.4	126 13 43.1	+ 2 39 56.1	— 77.6		
27	. .	. .	. .	+ 1 15.2	3 13.7	163 14 29.4	— 34 20 50.2	67.9		
28	44.0	39.2	. .	— 33.0	+ 42.0	125 20 9.4	+ 3 33 29.8	— 71.7		
29	. .	. .	. .	1 5.2	— 1 34.7	31 57 21.3	83 3 42.1	+ 77.7		
30	. .	. .	. .	6.3	2 31.6	21 12 23.4	72 18 44.2	69.4		
31	43.5	38.9	. .	3.9	— 2 31.6	21 12 25.8	72 18 46.6	+ 67.8		Circumpolar stars quite steady his evening.
32	43.0	39.0	. .	1 18.7	+ 12.2	105 18 54.7	23 34 44.5			
33	37.5	31.5	. .	1 5.3	— 44 15.1	118 34 42.0	+ 10 18 57.2			
34										Image very unsteady
35	25.5	23.6	29.074	34.2	+ 1 46.8	151 46 17.4	— 23 8 58.5		Ha.	
36	. .	. .	. .	2 57.2	1 49.4	152 18 58.0				
37	. .	. .	. .	1 12.8	0.2	90 13 49.9	+ 38 39 49.3	— 28.1		
38	30.0	24.1	. .	10.3	2 1.4	154 21 52.6	— 25 28 13.4			
39	33.5	23.1	. .	2 22.0	1 50.2	151 29 28.9	— 22 35 49.7			
40	. .	19.0	. .	3 44.6	39.3	122 1 55.1	+ 6 51 44.1	100.1		
41	. .	. .	. .	3 56.2	+ 39.2	122 1 43.4	6 51 55.8	100.1		
42	25.5	18.8	. .	51.4	— 1 13.9	40 17 57.5	88 35 41.7	114.6		
43										
44	24.0	15.8	. .	1 15.5	+ 13.6	105 29 1.1	23 24 38.1			
45	. .	. .	. .	52.6	+ 26.4	112 39 34.7	16 14 4.5	35.6		
46	22.0	17.1	. .	— 2 51.9	— 44 31.6	109 2 38.0	19 51 1.2			
47	22.0	16.9	. .	+ 21.9	+ 17.2	105 15 41.6	23 37 57.6			
48	42.0	42.1	29.107	— 54.6	— 1 9.7	40 17 56.0	+ 88 35 43.2	115.1		
49	41.0	39.4	. .	+ 3 44.1	+ 1 54.4	152 35 37.9	— 23 41 58.7	67.0		
50	. .	. .	. .	+ 1 9.9	1 56.7	153 3 5.3	24 9 26.1	64.2		
51	. .	. .	. .	— 9 34.6	1 34.5	147 46 58.7	18 53 19.5	60.5		
52	. .	. .	. .	+ 16.6	1 35.1	147 56 50.5	19 3 11.3	60.1		Double.
53	. .	. .	. .	+ 2 0.9	1 47.9	151 8 48.6	22 15 9.4	59.1		
54	. .	. .	. .	— 3 55.0	2 7.2	154 58 12.5	26 4 33.3	54.1		
55	. .	. .	. .	— 1 20.2	2 7.5	155 0 47.6	26 7 8.4	53.9		
56	40.5	38.1	. .	+ 4 25.2	1 49.4	151 26 15.7	22 32 36.5	52.7		
57	. .	. .	. .	— 6 7.0	1 48.7	151 15 42.8	22 22 3.6	50.6		
58	. .	. .	. .	4 8.6	1 54.7	152 32 47.2	23 39 8.0	49.3		
59	. .	. .	. .	1 46.9	2 10.7	155 30 23.3	26 36 44.1	45.6		
60	. .	. .	. .	19.9	2 14.5	156 6 54.3	— 27 13 15.1	43.7		
61	40.0	36.1	. .	— 2 47.0	12.8	105 32 28.1	+ 23 21 11.1			
62										
63									N.	Image unsteady.
64	32.5	28.6	29.131	+ 1 15.2	+ 2 15.7	155 58 32.6	— 27 4 53.4	— 90.7		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
						° ′ ″	″	″	″	″	″	″	r.	r.	in.
1864. Dec. 20	1	Polaris, (Ref.)	. .	5	. .	319 39 56.1	67.1	60.3	63.0	57.8	57.1	60.23	27.381	.437	30.003
	2	50 Cassiopeæ, (Ref.)	. .	5	III-VII.	302 49 56.6	67.4	61.6	65.1	58.5	57.4	61.10	25.485	.513	. .
	3	α Draconis, S. P.	. .	4	IV-I.	13 59 55.8	69.3	61.0	68.2	57.8	57.0	61.52	31.594	.663	29.990
	4	O. Arg. S. 1535	8.5	1	V.	147 39 57.5	68.1	61.6	68.0	58.0	58.3	61.92	31.740	.741	. .
	5	B. A. C. 765	4.0	1	V.	163 14 57.5	68.6	61.6	68.0	58.9	58.9	62.25	28.191	.196	. .
	6	5 Ursæ Minoris, S. P.	. .	3	IV-III.	25 14 56.1	68.6	61.0	69.2	56.9	56.8	61.43	32.327	.381	. .
	7	Anon. 2h. 42m. 59s.	. .	1	V.	163 9 56.9	68.3	61.2	69.1	58.9	59.0	62.23	26.900	.900	29.991
	8	α Ceti	. .	5	I-IX.	125 19 58.5	70.5	62.6	69.4	60.0	60.0	63.50	30.291	.296	. .
	9	B. A. C. 1049	. .	1	V.	152 59 57.5	67.8	61.9	68.9	57.9	58.9	62.15	30.961	.962	29.988
	10	η Tauri, (Ref.)	. .	5	III-VIII.	254 49 57.3	68.1	62.7	70.6	59.6	61.3	63.27	33.608	.615	. .
	11	Nadir 3h. 55m.	. .	4	. .	269 59 56.8	68.6	60.6	68.7	59.0	58.8	62.08	29.202	.207	. .
	12	Mars S. L.	. .	3	I-IX.	105 39 56.8	71.2	62.4	70.0	61.6	60.5	63.75	25.366	.358	. .
	13	Mars N. L.	. .	2	III, VII.	“ “ “	“	“	“	“	“	“	25.840	.828	29.993
	14	Mercury	. .	5	I-IX.	152 4 56.3	69.8	61.1	68.8	58.4	59.2	62.27	27.620	.634	29.782
22	15	Venus, centre	. .	1	V.	148 34 55.4	69.0	61.0	68.0	57.1	55.9	61.07	33.318	.324	29.880
	16	Weisse O, 583	8.0	1	VI.	125 59 55.0	68.4	59.1	66.0	56.1	54.5	59.85	26.535	.532	30.031
	17	Weisse O, 775	. .	1	IX.	125 34 54.6	68.9	59.9	67.1	56.2	55.0	60.28	32.406	.387	. .
	18	Weisse O, 928	. .	1	VII.	124 44 54.7	68.2	60.3	67.5	56.1	56.0	60.47	26.260	.253	. .
	19	Polaris	. .	3	1.	40 19 54.2	67.8	60.6	70.7	54.5	58.0	60.97	30.846	.846	30.050
	20	O.Arg.S., 1h.12m.10s.	. .	1	VII.	158 19 54.4	68.3	60.9	68.9	55.5	55.2	60.53	33.215	.216	. .
	21	A Cassiopeæ	. .	3	III-V.	59 19 54.6	68.4	61.9	69.6	58.9	60.1	62.25	29.511	.511	. .
	22	Anon. 1h. 28m. 47s.	. .	1	V.	152 59 54.3	68.4	61.5	69.0	56.2	56.0	60.90	28.695	.696	. .
	23	B. A. C. 563	. .	1	V.	167 54 55.2	68.3	61.3	70.4	56.8	55.2	61.20	30.749	.750	. .
	24	ξ Piscium	. .	5	I-IX.	126 19 54.8	67.4	58.8	67.1	55.5	54.9	59.75	25.897	.896	. .
	25	Weisse I, 880	. .	1	VII.	119 39 54.8	66.7	58.2	67.0	55.0	54.1	59.30	30.286	.278	30.067
	26	α Draconis, S. P.	. .	5	VII-III.	13 59 53.3	67.4	59.5	67.0	53.4	53.9	59.08	31.353	.375	. .
	27	Weisse II, 61	. .	1	VI.	117 39 55.0	68.0	58.7:	67.3	55.5	55.5	60.00	29.940	.932	. .
	28	Nadir	. .	2	. .	269 59 55.4	67.9	59.9	69.5	56.2	57.5	61.07	29.166	.170	. .
	29	σ Ceti	4.2	3	VII-IX.	144 39 54.4	68.6	59.9	66.5	57.1	55.9	60.40	24.177	.173	30.076
	30	Weisse II, 805	. .	1	V.	107 14 54.8	69.3	61.6	68.4	56.5	56.5	61.18	32.236	.241	. .
	31	Anon. 2h. 43m. 0s.	. .	1	V.	163 9 55.0	68.9	60.9	69.6	57.0	56.1	61.25	26.989	.990	. .
	32	O. Arg. S. 1887	. .	1	V.	152 19 55.3	69.3	61.7	69.9	57.8	56.8	61.80	25.525	.529	. .
	33	Lacaille 951	. .	5	III-VII.	163 34 54.0	67.4	60.4	68.1	56.9	55.6	60.40	30.918	.923	. .
	34	B. A. C. 4982, S. P.	. .	2	1.	31 59 53.0	66.6	59.0	68.6	54.8	54.6	59.43	31.105	.110	30.090
	35	B. A. C. 1012	6.0	1	V.	155 24 54.0	67.5	61.0	68.4	56.0	54.5	60.23	24.033	.035	. .
	36	τ^4 Eridani	3.3	3	IV-VI.	151 4 53.9	67.5	60.7	68.0	55.8	54.5	60.07	25.398	.406	. .
	37	γ Ursæ Minoris, S. P.	. .	4	IV-I.	21 14 54.4	66.2	59.0	69.6	55.3	55.0	59.92	28.980	.071	. .
	38	O. Arg. S. 2468	8.2	1	V.	152 29 54.9	68.4	61.7	70.0	56.2	56.3	61.25	24.211	.216	. .
	39	τ^7 Eridani	5.0	5	III-VII.	153 9 54.9	67.5	61.5	68.9	55.5	55.8	60.68	30.253	.262	30.104
	40	Mars S. L.	. .	3	I-IX.	105 44 55.1	70.8	62.0	70.1	59.0	58.5	62.58	29.637	.625	. .
	41	Mars N. L.	. .	2	III, VII.	“ “ “	“	“	“	“	“	“	30.172	.164	. .
	42	Anon. 4h. 7m. 21s.	. .	1	V.	152 24 54.3	66.8	60.7	68.6	55.3	54.0	59.95	38.210	.215	. .
	43	O. Arg. S. 2938	. .	1	V.	“ “ “	“	“	“	“	“	“	26.341	.347	. .
	44	O. Arg. S. 3082	7.5	1	V.	152 19 54.6	67.7	60.9	68.8	56.4	55.8	60.70	32.342	.348	. .
	45	O. Arg. S. 3108	8.7	1	V.	“ “ “	“	“	“	“	“	“	36.743	.744	. .
	46	Anon. 4h. 30m. 55s.	9.0	1	V.	155 39 53.5	65.7	59.1	66.9	54.4	53.1	58.78	25.525	.529	30.148
	47	O. Arg. S. 3325	8.8	1	V.	152 54 53.6	65.0	59.4	67.0	53.2	54.1	58.72	23.568	.572	. .
	48	Anon. 4h. 44m. 57s.	9.0	1	V.	152 24 55.6	67.7	62.0	69.6	56.9	56.6	61.40	32.601	.604	. .
	49	Fortuna	9.2	3	I-IX.	108 9 55.9	70.1	61.5	68.6	56.3	57.4	61.63	30.145	.131	30.170
	50	B. A. C. 1706	. .	2	V, 5.	53 59 55.5	70.0	61.8	72.0	56.9	58.0	62.37	33.703	.703	. .
	51	Nadir 5h. 40m.	. .	4	. . .	269 59 55.0	68.0	60.0	69.3	56.7	54.9	60.65	29.141	.144	. .
	52	Uranus	. .	4	I-VII.	105 14 55.3	71.0	61.5	71.2	58.7	57.6	62.55	27.686	.684	30.164
	53	Euterpe	. .	2	I, IX.	105 49 55.5	71.7	62.2	71.2	60.1	57.6	63.05	28.438	.423	. .
	54	44 Geminorum	. .	1	V.	105 59 54.0	70.9	60.6	70.0	58.0	55.5	61.50	22.869	.869	30.171
23	55	Sun N. L.	. .	4	I-IV.	152 4 54.1	69.1	59.0	68.0	58.0	56.1	60.72	35.494	.523	30.276
	56	Sun S. L.	. .	4	VI-IX.	152 34 54.5	69.0	58.3	68.0	56.7	55.6	60.35	30.564	.564	. .
	57	Mercury, centre	. .	1	V.	151 44 54.8	68.7	58.9	67.1	58.5	55.8	60.63	25.942	.942	30.238
	58	O. Arg. S. 1259	7.0	1	V.	153 24 55.0	68.0	59.0	65.9	57.0	55.8	60.12	31.172	.176	. .
	59	α Arietis	. .	1	V.	106 4 55.0	70.5	60.1	68.9	60.9	59.0	62.40	31.355	.361	30.140
	60	O. Arg. S. 1930	7.5	1	V.	145 14 55.3	68.0	58.0	65.1	58.5	56.8	60.28	28.178	.182	30.114
	61	τ^3 Eridani	6.0	1	VIII.	152 59 55.3	67.2	59.2	66.9	57.1	56.2	60.32	27.030	.028	. .
	62	Anon. 3h. 18m. 15s.	9.0	1	V.	147 49 55.9	66.8	59.2	66.0	57.0	56.0	60.15	30.432	.438	30.104
	63	O. Arg. S. 2504	7.0	1	V.	152 34 55.6	67.9	60.3	67.7	57.5	57.8	61.13	19.362	.368	. .
	64	τ^6 Eridani	6.5	1	V.	“ “ “	“	“	“	“	“	“	37.130	.134	. .
	65	Anon. 3h. 44m. 13s.	7.0	1	V.	147 59 55.8	67.2	59.3	65.8	57.2	56.1	60.23	26.121	.124	. .
	66	Anon. 3h. 51m. 1s.	8.0	1	V.	147 49 55.0	65.9	58.7	65.0	56.1	54.6	59.22	31.131	.135	. .

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860.0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	' "	' "	° ' "	° ' "	"		
1	32.3	28.0	29.131	+ 53.1	+ 1 12.2	319 42 5.5	+ 88 35 44.8	− 116.2	N.	At 1h. 11m. 50s., 15m. 55s., 16m. 35s., 17m. 16s., and 17m. 47s.
2	. .	. .	. .	+ 1 53.4	+ 39.4	302 52 33.9	+ 71 46 13.2	− 105.1		
3	31.5	27.4	. .	− 1 19.4	− 4 1.0	13 54 41.0	65 1 1.8	+ 101.8		
4	. .	. .	. .	− 1 21.8	+ 1 36.1	147 40 16.2	− 18 46 37.0	− 75.8		
5	. .	. .	. .	+ 29.3	+ 3 20.6	163 18 52.1	− 34 25 12.9	− 70.6		
6	. .	. .	. .	− 1 41.9	− 2 9.0	25 11 10.5	+ 76 17 31.3	+ 94.0		
7	. .	27.4	. .	+ 1 9.9	+ 3 19.7	163 14 31.8	− 34 20 52.6	− 64.9		
8	. .	. .	. .	− 36.5	43.3	125 20 10.3	+ 3 33 28.9	70.4		
9	31.0	27.1	. .	57.4	+ 1 59.3	153 1 4.0	− 34 7 24.8	56.9		
10	. .	. .	. .	− 2 20.5	− 16.6	254 47 26.1	+ 23 41 5.4	58.0		Wire VII omitted.
11										
12	. .	. .	. .	+ 1 58.2	+ 13.4	105 42 15.3	+ 23 11 31.2			
13	31.0	27.0	. .	1 43.5	13.4	105 42 0.6				
14	27.7	25.1	. .	+ 46.9	1 47.0	152 7 36.1	− 23 13 56.9			Unsteady and blurred.
15	26.5	24.6	. .	− 2 11.4	1 33.5	148 34 23.1	− 19 40 43.9		Ha.	
16	24.5	21.8	. .	+ 1 21.4	45.0	126 2 6.2	+ 2 51 33.0	102.4	N.	
17	. .	. .	. .	− 1 42.0	44.2	125 34 2.4	3 19 36.8	101.4		
18	. .	. .	. .	+ 1 30.2	+ 43.0	124 47 13.6	4 6 25.6	100.5		
19	25.0	21.5	. .	− 53.7	− 1 12.9	40 17 54.3	+ 88 35 44.9	116.4		
20	. .	. .	. .	2 8.0	+ 2 34.7	158 20 27.2	− 29 26 48.0	86.5		Glimpse through clouds.
21	. .	. .	. .	− 11.9	− 36.6	59 19 13.7	+ 69 34 25.5	112.8		
22	. .	. .	. .	+ 13.6	+ 2 1.2	153 2 15.7	− 24 8 36.5	85.2		
23	. .	. .	. .	− 50.7	4 43.1	167 58 53.6	− 39 5 14.4	78.1		
24	. .	. .	. .	+ 1 41.4	45.6	126 22 26.7	+ 2 31 12.5	90.0		
25	25.7	20.9	. .	− 35.9	+ 35.3	119 39 58.7	9 13 30.5	− 91.2		
26	. .	. .	. .	1 10.3	− 4 5.3	13 54 43.4	65 1 4.2	+ 102.3		
27	. .	. .	. .	− 25.1	+ 32.6	117 40 7.5	+ 11 13 31.7	− 87.8		Division under mic. C defective.
28										
29	24.5	20.1	. .	+ 2 35.3	1 27.7	144 44 3.4	− 15 50 24.2	74.2		
30	. .	. .	. .	− 1 37.4	19.3	107 13 43.0	+ 21 39 56.2	82.2		
31	. .	. .	. .	+ 1 7.1	3 23.6	163 14 31.9	− 34 20 52.7	64.5		
32	. .	. .	. .	+ 1 52.9	1 58.5	152 23 53.2	23 30 14.0	65.5		
33	. .	. .	. .	− 56.1	+ 3 28.6	163 37 32.9	− 34 43 53.7	− 61.2		
34	23.3	19.7	. .	− 1 2.0	− 1 39.5	31 57 17.9	+ 83 3 38.7	+ 82.7		
35	. .	. .	. .	+ 2 39.7	+ 2 15.8	155 29 55.7	− 26 36 16.5	− 58.1		
36	. .	. .	. .	− 1 56.7	+ 1 52.6	151 8 49.3	− 22 15 10.1	− 57.6		
37	. .	. .	. .	+ 1.9	− 2 39.2	21 12 22.6	+ 72 18 43.4	+ 73.3		
38	. .	. .	. .	+ 2 34.0	+ 1 59.6	152 34 34.8	− 23 40 55.6	− 49.4		
39	22.0	19.0	. .	− 35.4	2 2.8	153 11 28.0	− 24 17 48.8	47.2		
40	. .	. .	. .	15.5	13.9	105 45 0.9	+ 23 8 46.7			
41	. .	. .	. .	32.4	13.9	105 44 44.0				
42	. .	. .	. .	− 4 44.6	1 58.8	152 22 14.1	− 23 28 34.9	37.9		
43	. .	. .	. .	+ 1 27.2	1 59.4	152 28 26.5	23 34 47.3	36.8		
44	. .	. .	. .	− 1 40.8	1 58.8	152 20 18.7	23 26 39.5	32.6		
45	. .	. .	. .	− 3 58.5	1 58.6	152 18 0.8	23 24 21.6	31.9		Recorded $37^{r}.743$.
46	22.7	18.1	. .	+ 1 52.9	2 18.0	155 44 9.6	26 50 30.4	28.2		
47	. .	. .	. .	+ 2 54.2	2 2.3	152 59 55.2	24 6 16.0	25.8		
48	. .	. .	. .	− 1 48.8	1 59.3	152 25 11.9	− 23 31 32.7	22.9		
49	23.3	17.6	. .	31.3	+ 20.6	108 9 50.9	+ 20 43 48.3			
50	. .	. .	. .	− 2 23.2	− 45.6	53 56 53.5	74 56 45.7	− 13.3		
51	. .	. .	. .							
52	22.7	17.2	. .	+ 45.3	+ 17.0	105 16 4.8	23 37 34.4			
53	. .	. .	. .	22.2	17.8	105 50 43.0	23 2 56.2			
54	22.5	17.2	. .	+ 3 16.2	18.1	106 3 35.8	+ 22 50 3.5	+ 35.4		
55	25.0	22.7	29.142	− 3 19.9	1 49.1	152 3 29.8	− 23 26 9.5		Ha.	
56	. .	. .	. .	− 44.6	1 51.9	152 36 7.6				
57	27.5	25.2	. .	+ 1 40.3	1 47.1	151 48 28.0	22 54 48.8			
58	. .	. .	. .	− 1 3.7	2 3.3	153 25 59.7	− 24 32 20.5	− 79.0		
59	26.5	22.4	. .	− 1 9.5	17.9	106 4 10.8	+ 22 49 28.4	92.9		
60	26.0	21.8	. .	+ 30.1	1 29.3	145 16 59.6	− 16 23 20.4	66.0		
61	. .	. .	. .	+ 1 6.2	2 1.4	153 3 7.9	24 9 28.7	62.6		
62	26.0	22.6	. .	− 40.6	1 38.2	147 50 57.7	18 57 18.5	56.5		
63	. .	. .	. .	+ 5 6.2	1 59.2	152 42 6.5	23 48 27.3	48.1		
64	. .	. .	. .	− 4 10.4	1 58.5	152 32 49.2	23 39 10.0	47.4		Recorded $27^{r}.130$.
65	. .	. .	. .	+ 1 34.6	1 38.8	148 3 13.6	19 9 34.2	47.2		
66	. .	. .	. .	− 1 2.4	+ 1 38.0	147 50 34.7	− 18 56 55.5	− 44.6		

DATE.	Number.	OBJECT.	Magnitude.	No. of mic. readings.	Tr'sit wires.	MICROSCOPES.							MICROMETER.		Barometer.
						A.	B.	C.	D.	E.	F.	Mean.	Observed.	Correc'd.	
1864.						° ′ ″	″	″	″	″	″	″	r.	r.	in.
Dec. 23	1	Anon. 3h. 55m. 24s.	7.0	1	V.	151 29 55.9	69.0	60.2	67.2	58.3	56.5	61.18	26.622	.625	. .
	2	Mars, centre . . .	. .	3	IV–VI.	105 44 56.0	71.0	60.3	68.8	61.0	58.9	62.67	27.454	.459	30.100
	3	Nadir 4h. 40m. . .	. .	4	. .	269 59 56.3	68.8	59.1	67.7	60.0	58.8	61.78	29.191	.195	. .
24	4	Weisse O, 247 . .	.	1	IX.	122 39 56.8	67.0	57.6	64.3	59.3	60.2	60.87	34.699	.673	30.203
	5	Neptune	. .	5	I–IX.	127 59 57.0	67.0	56.9	63.3	60.8	59.5	60.75	23.704	.705	. .
	6	Anon. 0h. 29m. 42s.	8.0	1	V.	167 49 57.3	67.3	60.0	66.3	61.5	59.5	61.98	26.489	.494	. .
	7	Weisse O, 583 . .	7.3	1	V.	125 59 56.9	67.7	57.1	62.1	60.3	59.1	60.53	26.521	.526	. .
	8	Weisse O, 770 . .	9.0	3	I–IX.	125 34 57.1	68.5	58.2	63.4	60.9	59.9	61.33	27.997	.996	30.201
	9	Weisse O, 775 . .	7.5	3	II–VIII.	“ “ “	“	“	“	“	“	“	32.372	.377	. .
	10	Weisse II, 61 . .	7.7	4	VI–IX.	117 39 58.0	67.8	56.4	63.2	59.9	60.1	60.90	29.987	.969	30.217
	11	ι Cassiopeæ . . .	. .	5	III–VII.	62 19 56.2	66.6	58.5	64.2	60.7	62.2	61.40	26.613	.602	. .
	12	5 Ursæ Minoris, S. P.	. .	3	V½–IV½.	25 14 56.0	67.2	59.1	66.1	58.3	58.2	60.82	32.429	.438	. .
	13	Weisse II, 805 . .	7.8	5	III–VII.	107 14 56.2	68.4	58.8	63.7	60.6	59.5	61.20	32.211	.213	30.206
	14	β Ursæ Min. S. P. (Ref.)	. .	5	. .	336 19 56.2	65.9	59.1	61.0	58.9	57.5	59.77	25.761	.652	. .
	15	B. A. C. 4982, S. P.	5.0	. .	. .	31 59 57.5	68.4	60.8	67.3	61.4	61.0	62.73	31.301	.370	. .
	16	Lacaille 1041 . .	6.3	1	V.	152 54 57.4	67.5	60.4	66.4	60.1	60.5	62.05	33.279	.285	30.212
	17	Anon. 3h. 18m. 16s.	. .	1	V.	147 49 57.1	66.9	59.2	64.0	59.3	59.1	60.93	30.441	.447	. .
	18	Nadir 3h. 30m. . .	. .	3	. .	269 59 57.6	67.0	58.4	65.4	60.5	61.2	61.68	29.195	.200	. .
	19	8 Pleiadum, (Ref.) .	. .	1	V.	254 49 58.3	67.8	61.0	68.5	62.5	64.3	63.73	23.669	.671	. .
	20	η Tauri, (Ref.) . .	. .	5	III–VII.	“ “ “	“	“	“	“	“	“	33.604	.610	. .
	21	28 Tauri	. .	5	III–VII.	“ “ “	“	“	“	“	“	“	29.448	.457	. .
	22	ζ Ursæ Minoris, S. P.	. .	3	VI.	27 9 58.1	69.5	61.5	68.9	61.3	61.5	63.47	33.038	.066	30.208
	23	Mars S. L. . . .	. .	3	I–IX.	105 44 58.0	69.8	60.5	67.2	63.4	62.9	63.63	24.996	.983	. .
	24	Mars N. L. . . .	. .	2	III, VII.	“ “ “	“	“	“	“	“	“	25.488	.487	. .
	25	Anon. 4h. 5m. 2s. .	8.2	1	V.	155 49 57.0	66.5	58.4	64.0	59.7	58.0	60.60	30.676	.678	. .
	26	Anon. 4h. 13m. 33s.	8.5	1	V.	152 34 56.8	67.3	60.1	65.1	59.6	59.5	61.40	26.435	.441	. .
	27	O. Arg. S. 3082 . .	8.0	1	V.	152 14 56.2	66.8	59.2	63.5	60.1	58.9	60.78	22.754	.755	. .
	28	O. Arg. S. 3108 . .	8.8	5	III–VII.	“ “ “	“	“	“	“	“	“	27.096	.102	. .
	29	α Tauri, (Ref.) . .	. .	3	II–IV.	247 19 56.5	66.2	59.7	66.6	61.4	61.9	62.05	27.648	.667	. .
	30	α Tauri	. .	4	VI–IX.	112 39 56.4	67.6	58.8	63.8	60.1	60.0	61.12	30.821	.800	. .
	31	Anon. 4h. 36m. 44s.	7.0	5	I–IX.	152 19 57.0	67.8	60.2	65.0	61.8	59.9	61.95	32.958	.969	30.217
	32	Weisse IV, 1047 .	9.0	1	VI.	101 14 54.9	65.4	55.5	62.8	58.3	58.2	59.18	26.455	.452	. .
	33	Anon. 4h. 59m. 53s.	8.8	1	V.	152 39 56.2	66.9	59.1	64.4	60.0	59.4	61.00	25.642	.644	. .
	34	Fortuna	9.3	5	I–IX.	108 9 56.3	68.5	59.5	62.9	60.2	59.6	61.17	25.191	.186	30.224
28	35	Sun S. L. . . .	. .	4	I–IV.	152 24 59.5	69.0	61.6	65.2	62.6	64.2	63.68	32.304	.335	29.536
	36	Mercury, centre . .	. .	1	V.	150 9 57.8	67.1	60.1	63.2	61.1	61.3	61.77	31.038	.040	29.528
29	37	Weisse O, 302 . .	. .	1	V.	121 59 55.3	69.6	59.7	65.5	54.6	57.4	60.35	36.313	.319	29.648
	38	Nadir 0h. 40m. . .	. .	3	. .	269 59 55.6	68.5	59.4	67.0	58.5	58.7	61.28	29.145	.107	. .
	39	Weisse I, 269 . .	. .	1	V.	123 9 57.8	69.8	60.0	68.5	56.7	59.0	61.97	36.589	.592	29.656
	40	ν Piscium	. .	3	III–VII.	124 5 56.7	70.0	61.9	68.9	58.5	62.0	63.00	29.734	.734	. .
	41	Weisse I, 772 . .	. .	1	V.	120 59 55.9	68.8	58.7	67.3	56.9	61.8	61.57	28.807	.807	. .
	42	50 Cassiopeæ . . .	. .	5	III–VII.	57 9 . .	68.4	61.8	69.3	58.9	62.0	63.50	32.980	.958	29.656
	43	Lacaille 745 . . .	. .	1	IX.	163 14 54.6	67.2	60.8	67.0	56.8	56.6	60.50	27.956	.967	. .
	44	δ Ceti	. .	5	I–IX.	129 9 55.0	66.4	57.3	65.0	56.0	55.8	59.25	32.546	.550	29.668
	45	γ Fornacis	6.0	5	III–VII.	153 59 56.5	68.3	61.9	66.5	57.1	56.4	61.12	31.478	.487	. .
	46	Lacaille 951 . . .	6.7	5	III–VII.	163 34 57.5	69.0	63.3	68.8	59.6	58.6	62.80	30.706	.712	. .
	47	Weisse III, 36 . .	6.0	1	V.	116 19 57.4	69.1	60.8	67.1	57.2	58.5	61.68	27.040	.042	. .
	48	B. A. C. 1039 . .	5.0	1	VII.	153 29 56.8	68.3	62.1	68.0	56.2	57.5	61.48	31.782	.777	. .
	49	Anon. 3h. 14m. 37s.	7.5	1	V.	“ “ “	“	“	“	“	“	“	32.973	.974	29.666
	50	Lacaille 1124 . .	6.0:	1	V.	154 59 56.6	68.9	61.0	67.3	57.8	58.2	61.63	36.585	.588	. .
	51	O. Arg. S. 2343 . .	8.5	1	V.	“ “ “	“	“	“	“	“	“	31.667	.669	. .
	52	η Tauri, (Ref.) . .	. .	3	IV–VI.	254 44 56.7	68.3	62.6	70.4	58.5	61.0	62.92	23.984	.986	. .
	53	27 Tauri, (Ref.) . .	. .	5	III–VII.	“ “ “	“	“	“	“	“	“	29.384	.393	. .
	54	Lacaille 1271 . .	. .	2	VIII, IX.	152 24 56.8	68.5	62.5	69.2	58.4	59.6	62.50	32.070	.070	29.660
	55	Mars, centre . . .	. .	5	I–IX.	105 49 56.6	71.0	62.8	70.4	60.2	60.5	63.58	26.430	.433	. .
	56	Anon. 4h. 5m. 2s. .	. .	1	V.	155 49 56.8	67.0	60.4	67.0	56.5	55.9	60.60	30.548	.552	. .
	57	Anon. 4h. 13m. 33s.	9.0	1	V.	152 34 56.0	67.6	61.5	67.9	56.4	57.5	61.15	26.285	.291	. .
	58	Lacaille 1474 . .	6.2	5	I–IX.	155 24 56.4	67.4	61.6	68.0	57.5	57.2	61.35	27.044	.059	29.656
	59	Anon. 4h. 32m. 17s.	8.7	1	V.	155 54 56.1	66.6	59.2	67.0	56.0	55.8	60.12	29.690	.691	. .
	60	Anon. 4h. 41m. 8s. .	8.8	1	V.	118 9 55.0	67.2	57.2	65.6	55.2	56.4	59.43	29.635	.637	. .
	61	Nadir 4h. 55m. . .	. .	4	. .	269 59 55.2	66.9	59.3	67.6	56.9	57.5	60.57	29.160	.164	. .
	62	Anon. 4h. 59m. 53s.	8.7	1	V.	152 39 55.5	67.2	60.8	67.5	57.5	56.7	60.87	25.534	.538	. .
	63	Fortuna	. .	1	VII.	108 19 55.4	68.5	60.1	65.8	57.1	57.3	60.70	33.215	.203	. .
	64	ε Orionis	. .	4	I–IV.	130 9 55.1	67.3	58.0	66.5	55.9	56.2	59.83	28.383	.404	29.666
30	65	Sun N. L. . . .	. .	4	I–IV.	151 44 55.3	68.0	59.0	66.2	58.8	58.1	60.90	32.674	.697	29.758
	66	Sun S. L. . . .	. .	4	VI–IX.	152 14 56.0	68.9	60.1	67.0	59.4	59.1	61.75	28.022	.024	. .
	67	Venus, centre . .	. .	5	III–VII.	145 34 56.1	68.1	58.0	63.8	59.1	59.2	60.72	30.503	.510	29.770

Number.	THERM'S.		Mic. zero.	CORRECTIONS FOR—		Corrected Reading.	Observed Declination.	Reduct'n to 1860. 0.	Observer.	REMARKS.
	At.	Ex.		Micrometer.	Object.					
	°	°	r.	′ ″	′ ″	° ′ ″	° ′ ″	″		
1	. .	. .	29. 142	+ 1 18. 9	+ 1 53. 6	151 33 13. 6	− 22 39 34. 4	− 42. 3	Ha.	
2	26. 0	23. 4	. .	+ 52. 7	13. 8	105 46 9. 1	+ 23 7 30. 1			
3										
4	35. 0	33. 2	. .	− 2 53. 3	38. 9	122 37 46. 4	6 15 52. 8	105. 1	N.	
5	. .	. .	. .	+ 2 50. 4	47. 4	128 3 38. 5	+ 0 50 0. 7			
6	. .	. .	. .	1 23. 0	4 36. 4	167 56 1. 3	− 39 2 22. 1	89. 0		
7	. .	. .	. .	1 22. 0	44. 2	126 2 6. 7	+ 2 51 32. 5	102. 3		
8	34. 7	31. 7	. .	+ 35. 9	43. 6	125 36 20. 8	3 17 18. 4	101. 2		
9	. .	. .	. .	− 1 41. 4	43. 5	125 34 3. 4	3 19 35. 8	101. 2		
10	33. 0	30. 4	. .	− 25. 9	+ 32. 0	117 40 7. 0	11 13 32. 2	87. 7		
11	. .	. .	. .	+ 1 19. 6	− 32. 4	62 5 48. 6	66 47 50. 0	− 97. 1		
12	. .	. .	. .	− 1 43. 3	− 2 9. 3	25 11 8. 2	76 17 29. 0	+ 95. 1		
13	32. 5	29. 7	. .	− 1 36. 2	+ 19. 0	107 13 44. 0	21 39 55. 2	− 82. 2		
14	. .	. .	. .	+ 1 49. 3	+ 2 19. 4	336 24 8. 5	74 42 12. 2	+ 86. 5		At 2h. 52m. 2s., 52m. 29s., 52m. 54s., 54m. [8s., and 54m. 44s.
15	. .	. .	. .	− 1 9. 8	− 1 38. 0	31 57 14. 9	+ 83 3 35. 7	+ 83. 4		At 3h. 1m. 55s., 2m. 10s., and 2m. 25s.
16	32. 3	28. 6	. .	2 9. 8	+ 1 59. 3	152 54 51. 5	− 24 1 12. 3	− 57. 5		Recorded 152° 49′.
17	. .	. .	. .	− 40. 9	+ 1 37. 3	147 50 57. 3	− 18 57 18. 1	56. 3		
18										
19	. .	. .	. .	+ 2 51. 3	− 16. 6	254 52 38. 4	+ 23 46 17. 6	58. 4		
20	. .	. .	. .	− 2 20. 0	16. 7	254 47 27. 0	23 41 6. 2	58. 0		
21	. .	. .	. .	9. 9	16. 7	254 49 37. 1	23 43 16. 3	− 57. 2		
22	31. 7	27. 0	. .	− 2 2. 9	− 1 59. 6	27 6 0. 9	78 12 21. 7	+ 61. 5		
23	. .	. .	. .	+ 2 10. 3	+ 13. 7	105 47 27. 6	+ 23 6 19. 5			
24	. .	. .	. .	+ 1 54. 5	13. 7	105 47 11. 8				
25	. .	. .	. .	− 48. 1	2 16. 5	155 51 29. 0	− 26 57 49. 8	− 37. 6		
26	. .	. .	. .	+ 1 24. 6	1 58. 5	152 38 24. 5	23 44 45. 3	34. 9		
27	. .	. .	. .	3 20. 1	1 57. 0	152 20 17. 8	23 26 38. 6	32. 1		
28	. .	. .	. .	1 3. 9	+ 1 56. 9	152 18 1. 5	− 23 24 22. 3	31. 4		Recorded 26r.
29	. .	. .	. .	+ 46. 2	− 25. 7	247 20 22. 5	+ 16 14 1. 8	35. 2		
30	. .	. .	. .	− 51. 9	+ 25. 7	112 39 34. 9	+ 16 14 4. 3			
31	31. 0	25. 8	. .	− 1 59. 9	1 57. 1	152 19 59. 1	− 23 26 19. 9	25. 7		
32	. .	. .	. .	+ 1 24. 3	12. 3	101 16 35. 7	+ 27 37 3. 5	27. 8		
33	. .	. .	. .	1 49. 6	1 59. 2	152 43 49. 8	− 23 50 10. 6	16. 2		
34	30. 3	25. 0	. .	+ 2 4. 0	+ 20. 2	108 12 25. 4	+ 20 41 13. 8			
35	47. 0	46. 3	29. 146	− 1 39. 9	− 14 36. 0	152 8 47. 7	− 23 15 8. 5		Ha.	
36	48. 5	50. 0	. .	59. 3	+ 1 30. 7	150 10 33. 1	− 21 16 53. 9			
37	36. 0	30. 8	29. 107	3 46. 0	37. 4	121 56 51. 7	+ 6 56 47. 5	104. 8	H.*	* Prof. Hall.
38										
39	35. 3	30. 2	29. 146	3 53. 3	39. 1	123 6 47. 7	5 46 51. 5	96. 8	D.	
40	. .	. .	. .	− 18. 4	40. 6	124 5 25. 2	4 48 14. 0	93. 0		
41	. .	. .	. .	+ 10. 6	+ 36. 1	121 0 48. 2	7 52 51. 0	91. 9		R. A. 10s. too small in Weisse's Catalogue.
42	34. 5	30. 1	. .	− 1 59. 4	− 38. 8	57 7 25. 3	+ 71 46 13. 9	106. 4		N. read circle. Division of circle under mic. A obliterated; + 0″. 5 applied to mean of C, D, E, and F; cloudy.
43	. .	. .	. .	+ 36. 9	+ 3 17. 4	163 18 54. 8	− 34 25 15. 6	69. 1	N.	
44	34. 3	29. 7	. .	− 1 46. 7	48. 9	129 9 1. 4	0 15 22. 2	76. 0		
45	. .	. .	. .	1 13. 3	2 2. 6	154 0 50. 4	25 7 11. 2	65. 3		43. Cloudy; very unreliable.
46	. .	. .	. .	− 49. 1	3 21. 6	163 37 35. 3	− 34 43 56. 1	60. 0		
47	. .	. .	. .	+ 1 5. 9	29. 8	116 21 37. 3	+ 12 32 1. 9	69. 1		
48	. .	. .	. .	− 1 22. 4	2 0. 1	153 30 39. 1	− 24 36 59. 9	55. 8		
49	33. 0	28. 9	. .	1 59. 9	2 0. 1	153 30 1. 6	24 36 22. 4	55. 5		
50	. .	. .	. .	3 53. 2	2 8. 1	154 58 16. 5	26 4 37. 3	51. 1		
51	. .	. .	. .	− 1 19. 1	+ 2 8. 4	155 0 50. 9	− 26 7 11. 7	50. 9		
52	. .	. .	. .	+ 2 41. 7	− 16. 4	254 47 28. 2	+ 23 41 7. 5	58. 0		Recorded $\overset{r.}{33}.984$.
53	. .	. .	. .	− 7. 7	− 16. 4	254 44 38. 8	+ 23 38 18. 1	57. 3		
54	32. 5	28. 3	. .	− 1 31. 6	+ 1 54. 6	152 25 25. 5	− 23 31 46. 3	43. 6		Unsteady and blurred.
55	. .	. .	. .	+ 1 25. 0	13. 6	105 51 42. 1	+ 23 1 57. 1			Much blurred.
56	. .	. .	. .	− 44. 1	2 13. 5	155 51 30. 0	− 26 57 50. 8	36. 6		
57	. .	. .	. .	+ 1 29. 5	1 55. 8	152 43 26. 4	23 49 47. 2	33. 8		Recorded 152° 39′.
58	32. 5	28. 4	. .	+ 1 5. 4	2 11. 1	155 28 17. 8	26 34 38. 6	29. 2		
59	. .	. .	. .	− 17. 1	2 14. 1	155 56 57. 1	− 27 3 17. 9	25. 8		
60	. .	. .	. .	− 15. 4	32. 1	118 10 16. 1	+ 10 43 23. 1	28. 2		
61										
62	. .	. .	. .	+ 1 53. 0	1 56. 3	152 43 50. 1	− 23 50 10. 9	15. 0		
63	. .	. .	. .	− 2 7. 2	19. 9	108 18 13. 4	+ 10 35 25. 8			Very faint and uncertain.
64	32. 5	27. 8	. .	+ 23. 2	50. 9	130 11 13. 9	− 1 17 34. 7	− 4. 6		Bar. and thermometer read at 5h. 48m.
65	37. 5	38. 8	. .	− 1 51. 3	1 41. 9	151 44 51. 5	23 7 27. 2		Ha.	
66	. .	. .	. .	+ 35. 2	1 44. 4	152 17 21. 3				
67	40. 5	40. 3	. .	− 42. 7	+ 1 19. 5	145 35 37. 5	− 16 41 58. 3			

OBSERVATIONS

WITH THE

PRIME VERTICAL TRANSIT INSTRUMENT,

1864.

DATE.	No. for reference.	OBJECT.	Vertical.	Telescope.	TIMES OF TRANSIT OVER WIRES.							Telescope.	TIMES OF TRANSIT OVER WIRES.						
					A.	B.	C.	D.	E.	F.	G.		G.	F.	E.	D.	C.	B.	A.
1864.					h. m. s.	s.	s.	s.	s.	s.	s.		s.	s.	s.	s.	s.	s.	m. s.
Jan. 1	1	α Lyræ . . .	E.	N.	18 5 19.0	49.0	20.0	50.5	22.0	53.0	23.0	S.	24.0	58.0	33.0	11.0	50.0	29.0	15 11.0
	2		W.	S.	18 3 . .	23.0	3.0	40.0	17.0	55.0	31.0	N.	29.0	1.0	30.0	2.5	31.0	3.0	13 32.0
13	3	α Lyræ . . .	E.	S.	18 5 . .	. .	30.0	1.0	31.0	4.0	38.0	N.	32.0	9.5	46.0	23.0	2.0	. .	15 . .
	4		W.	N.	19 4 . .	. .	22.5	59.0	34.0	14.5	52.5	S.	43.5	17.0	50.5	20.0	49.0	. .	13 . .
15	5	α Lyræ . . .	E.	N.	18 5 37.0	6.5	36.7	6.7	37.7	9.5	39.0	S.	37.3	10.3	48.0	25.7	2.0	42.3	15 23.0
	6		W.	S.	19 4 3.5	43.3	23.7	0.0	40.0	16.5	50.0	N.	48.0	17.7	50.0	21.0:	51.0	21.7	13 50.7
22	7	α Lyræ . . .	E.	S.	18 5 49.3	16.7	47.7	17.0	47.0:	20.5	53.0	N.	47.5	24.7	3.7	41.0	18.0	57.7	15 36.3
	8		W.	N.	19 4 22.7	1.0	41.7	18.3	56.3	35.7	12.0	S.	3.5	36.3	10.0	40.3	9.0	40.3	14 7.0
24	9	α Lyræ . . .	E.	N.	18 5 57.0	26.0	56.0	27.0	57.3	28.7	59.0	S.	57.0	30.0	9.0	46.0	23.0	4.3	15 43.5
	10		W.	S.	19 4 26.0	7.0	46.7	24.0	2.0	39.0	12.7	N.	14.0	54.0	15.5	47.5	16.0	47.0	14 16.3
25	11	α Lyræ . . .	E.	S.	18 6 1.0	28.5	58.5	28.0	58.0	. .	4.0	N.	57.5	. .	13.0	50.0	27.5	8.0	15 45.0
	12		W.	N.	19 4 32.5	11.0	51.0	29.5	6.0	. .	21.5	S.	13.5	. .	19.0	49.5	19.5	49.0	14 16.5
26	13	α Lyræ . . .	E.	N.	18 5 59.3	29.5	0.0	29.0	0.7	32.0	2.0	S.	0.0	32.5	10.5	48.3	25.0	5.3	15 45.7
	14		W.	S.	19 4 33.0	14.5	53.7	31.3	9.0	46.7	19.7	N.	20.0	49.3	22.0	52.7	22.7	53.0	14 22.0
28	15	α Lyræ . . .	E.	S.	18 6 3.5	31.5	4.0	32.7	1.7	34.0	9.0	N.	1.0:	40.5	18.5	55.7	32.0	12.7	15 51.0
	16		W.	N.	19 4 42.0	19.5	1.0	37.0	15.0	51.7	30.0	S.	19.7	53.5	26.0	56.0	25.3	56.0	14 25.0
Feb. 4	17	α Lyræ . . .	E.	N.	18 6 7.5	38.0	8.5	37.0	8.5	41.0	10.5	S.	5.5	39.5	16.0	54.0	31.0	10.5	15 51.5
	18		W.	S.	19 4 51.5	31.0	12.0	48.5	26.5	3.5	36.5	N.	35.0	6.5	36.0	8.0	36.0	8.0	14 37.0
9	19	α Lyræ . . .	E.	S.	18 6 16.0	44.0	14.0	43.7	14.7	47.7	21.0	N.	13.7	49.3	29.0	5.0	42.5	22.7	16 1.0
	20		W.	N.	19 5 4.0	42.3	20.3:	59.0	36.5	14.5	52.0	S.	45.7	17.7	51.0	20.0	50.3	21.0	14 48.3
23	21	α Lyræ . . .	E.	N.	18 6 26.3	55.3	26.0	55.0	26.7	58.3	28.0:	S.	25.0	58.0	34.3	12.7	49.3	29.3	16 9.0
	22		W.	S.	19 5 17.3	56.7	38.0	14.0	52.5	29.0	1.5	N.	59.3	28.7	0.5	31.7	0.3	31.7	15 0.5
25	23	α Lyræ . . .	E.	S.	18 6 31.0	58.0	28.0	58.3	28.5	1.5	34.3	N.	27.3	4.0	43.0	20.0	57.3	36.5	16 14.5
	24		W.	N.	19 5 20.7	58.3	39.0	15.3	52.5	31.5	8.3	S.	0.5	33.3	6.0	37.5	6.7	37.3	15 4.5
26	25	α Lyræ . . .	E.	N.	18 6 31.7	1.0	32.3	0.5	32.0	4.3	33.7	S.	28.0	2.0	39.5	17.0	53.7	33.5	16 13.7
	26		W.	S.	19 5 32.7	2.3	42.5	19.3	57.7	35.3	7.0	N.	4.3	33.3	5.7	36.7	5.7	37.5	15 5.7
Mar. 1	27	α Lyræ . . .	E.	S.	18 6 33.5	1.7	31.7	1.0	31.3:	3.7	37.0	N.	32.7	7.5	46.7	22.5	0.5	40.5	16 18.0
	28		W.	N.	19 5 25.3	4.3	44.0	21.0	57.0	37.0	13.7	S.	9.0	42.0	13.7	43.7	14.3	43.7	15 12.0
3	29	α Lyræ . . .	E.	N.	18 6 34.3	5.0	35.0	4.7	36.0	6.7	37.0	S.	30.0	4.0	41.0:	19.0	55.5:	36.0	16 16.0
	30		W.	S.	19 5 31.7	10.7	51.0	28.0	4.5	42.0	15.3	N.	10.7	40.0	11.7	44.3	12.3	43.5	15 12.3
6	31	α Lyræ . . .	E.	S.	18 6 38.3	5.5	36.0	5.7	36.3	9.3	41.5	N.	35.5	12.3	51.0	28.0	4.7	44.3	16 22.3
	32		W.	N.	19 5 30.5	8.0	48.0	25.0	2.3	41.0	18.0	S.	11.7	44.3	16.5	47.7	16.5	47.0	15 14.7
11	33	α Lyræ . . .	E.	N.	18 6 39.3	8.7	39.7	8.7	40.0	11.7	40.7	S.	35.3	8.0	45.7	23.0	59.7	40.3	16 19.0
	34		W.	S.	19 5 33.5	13.3	53.7	30.0	7.7	45.0	17.0	N.	14.0	43.0	15.0	46.3	15.3	46.0	15 14.7
13	35	α Lyræ . . .	E.	S.	18 6 . .	13.5	43.5	14.0	44.0	16.0	50.0	N.	43.0	20.5	58.5	34.0	12.5	52.0	16 . .
	36		W.	N.	19 5 . .	14.5	55.0	32.5	8.5	46.5	24.0	S.	15.5	. .	21.5	. .	22.0	51.0	15 . .
May 9	37	α Lyræ . . .	E.	N.	18 8 . .	47.3	18.5	47.5	18.7	51.0	20.0	S.	16.3	49.5	27.5	4.0	41.5	22.5	18 1.5
	38		W.	S.	19 6 57.0	37.5	18.7	54.5	32.0	10.3	43.0	N.	40.0	9.5	42.3	13.7	42.0	14.0	16 42.0
19	39	α Lyræ . . .	E.	S.	18 7 . .	26.5	57.0	28.0	0.5	31.5	4.5	N.	55.5	32.5	11.5	50.5	28.0	6.5	17 . .
	40		W.	N.	19 6 . .	10.0	51.5	25.5	5.0	44.5	20.5	S.	13.0	46.5	18.0	48.5	19.5	49.5	16 . .
20	41	α Lyræ . . .	E.	N.	18 7 59.0	28.0	59.0	29.5	0.0	32.5	2.5	S.	59.5	33.5	10.0	48.5	26.0	5.5	17 46.5
	42		W.	S.	19 6 32.0	12.5	52.0	27.5	7.5	44.0	18.0	N.	15.5	46.5	18.0	49.0	18.0	49.5	16 16.5
22	43	α Lyræ . . .	E.	S.	18 8 . .	. .	2.0	. .	3.0	36.5	6.5	N.	3.0	39.0	18.0	57.0	33.0	13.0	17 51.0
	44		W.	N.	19 6 32.0	9.0	51.0	28.0	5.0	44.5	24.0	S.	16.0	49.0	21.0	53.0	22.0	53.0	16 21.0
30	45	α Lyræ . . .	E.	N.	18 8 25.5	54.5	26.0	56.0	26.0	58.5	27.0	S.	26.5	59.0	35.5	14.5	51.5	33.0	18 13.0
	46		W.	S.	19 6 52.0	33.0	13.0	51.5	28.0	5.0	39.0	N.	38.0	7.0	38.5	10.5	37.5	8.5	16 40.0
31	47	α Lyræ . . .	E.	S.	18 8 30.0	57.5	25.5	56.0	27.0	1.0	33.0	N.	27.5	3.5	43.5	19.0	58.0	38.5	18 16.0
	48		W.	N.	19 6 56.5	33.5	11.5	51.5	28.5	8.0	45.5	S.	. .	9.5	44.5	15.0	44.5	15.0	16 42.5
June 3	49	α Lyræ . . .	E.	N.	18 8 37.5	8.0	38.0	6.0	39.0	12.0	40.5	S.	39.0	11.5	49.0	28.5	5.0	45.0	18 26.5
	50		W.	S.	19 7 0.0	40.5	23.0	0.0	37.5	14.0	47.5	N.	46.0	14.0	47.0	19.0	48.0	19.0	16 49.5

No. for reference.	LEVEL READINGS. Before reversal. N.	LEVEL READINGS. Before reversal. S.	LEVEL READINGS. After reversal. N.	LEVEL READINGS. After reversal. S.	Mean, ¼ (S.-N.)	Correction for level.	Apparent declination.	Reduction to 1860.0.	Seconds of mean declination, 1860.0.	Weight.	Observer.	REMARKS.
	d.	d.	d.	d.	d.	"	° ' "	"	° ' "			
1 2	71.73 69.33	72.53 70.42	70.28 69.42	73.13 69.57	+ 0.91 0.31	+ 0.60	38 39 37.65	— 16.96	38 39 20.69	½	Ha.	
3 4	64.80 63.20	64.95 62.52	64.37 61.98	64.28 62.27	+ 0.01 — 0.10	— 0.04	33.74	23.26	20.48	2 2		Clock fast 7m. 19s.9. Whence azimuth = 4s.5.
5 6	66.52 64.70	62.97 60.80	66.22 64.37	62.68 59.92	1.77 2.09	1.90	32.93	12.67	20.24	4 3	N.	
7 8	64.52 62.38	61.42 59.35	63.88 61.68	61.28 58.85	1.42 1.46	1.42	30.72	10.75	19.97	3 3		
9 10	56.32 51.55	51.10 46.90	55.35 50.82	50.90 45.35	2.42 2.53	2.44	30.36	10.14	20.22	2 3		
11 12	52.17 49.08	47.57 43.52	50.98 47.53	45.33 43.60	2.56 2.37	2.43	30.12	9.78	20.34	4 4	Ha.	
13 14	61.28 57.92	58.15 55.30	60.62 57.70	57.88 54.52	1.47 1.45	1.44	29.53	9.48	20.05	3 3	N.	
15 16	60.68 57.80	56.58 53.82	60.20 57.22	56.20 53.52	2.02 — 1.92	— 1.94	29.09	8.94	20.15	3 3		
17 18	62.92 61.30	64.33 62.47	62.68 60.18	63.90 61.38	+ 0.66 0.59	+ 0.62	27.42	7.27	20.15	4 3	Ha.	
19 20	71.62 70.98	73.30 73.37	71.05 71.35	74.00 72.58	1.16 + 0.90	+ 1.01	26.25	5.95	20.30	3 3	N.	Clock fast 8m. 9s.8. Azimuth, 2s.6.
21 22	61.95 61.72	60.70 60.00	62.28 61.38	60.88 59.78	— 0.66 0.83	— 0.73	22.97	3.20	19.77	4 4		Clock fast 8m. 20s. Azimuth, 3s.
23 24	69.10 67.97	66.85 65.55	69.00 67.82	66.82 65.45	1.11 1.20	1.14	23.08	2.90	20.18	4 4		
25 26	52.68 52.52	51.40 50.80	53.32 51.88	51.35 50.52	0.81 0.77	0.78	22.83	2.80	20.03	3 4		Diminished length of bubble of level.
27 28	55.68 57.10	53.60 56.62	55.98 57.50	54.70 56.05	0.84 — 0.48	— 0.65	22.04	2.39	19.65	2 3		Temperature of room 10° higher than that of external air.
29 30	54.32 54.28	55.52 54.95	54.90 53.90	55.52 55.02	+ 0.45 + 0.45	+ 0.44	21.92	2.12	19.80	2 3		
31 32	59.50 58.78	56.18 55.88	59.40 58.55	56.48 55.82	— 1.58 1.41	— 1.47	21.66	1.70	19.96	5 3		
33 34	52.10 52.55	50.10 50.15	52.55 52.15	49.98 50.18	1.14 1.09	1.10	21.16	1.32	19.84	3 4		Tested parallelism of axis of level, and found it sensibly perfect.
35 36	56.95 56.78	49.82 52.60	56.62 57.20	51.40 52.42	3.08 2.24	2.62	21.61	1.39	20.32	4 4	Ha.	
37 38	34.22 35.05	30.92 33.22	34.45 35.95	31.72 32.80	1.51 1.24	1.36	27.61	7.41	20.20	3 3	N.	
39 40	45.18 46.00	40.55 40.75	45.55 44.92	40.38 40.70	2.47 2.35	2.38	30.12	9.93	20.19	1 1	Ha.	
41 42	45.20 44.85	40.40 41.58	44.92 44.80	41.25 40.50	2.12 1.89	1.97	30.50	10.25	20.25	2 2		
43 44	44.62 45.98	39.55 41.22	45.32 45.78	40.45 41.15	2.48 2.35	2.37	31.40	10.86	20.54	2 2		
45 46	44.28 45.45	41.48 42.00	45.18 45.18	41.22 42.08	1.69 1.64	1.64	33.25	13.01	20.24	4 4		
47 48	41.70 42.62	38.08 39.42	42.08 43.42	38.55 39.58	1.79 1.76	1.75	33.26	13.33	19.93	3 3		
49 50	48.75 48.42	44.95 44.98	48.70 48.15	44.75 45.08	1.94 — 1.63	— 1.76	38 39 34.95	— 14.35	38 39 20.60	3 3		

DATE.	No. for reference.	OBJECT.	Vertical.	Telescope.	TIMES OF TRANSIT OVER WIRES.							Telescope.	TIMES OF TRANSIT OVER WIRES.						
					A.	B.	C.	D.	E.	F.	G.		G.	F.	E.	D.	C.	B.	A.
1864.					h. m. s.	s.	s.	s.	s.	s.	s.		s.	s.	s.	s.	s.	s.	m. s.
June 7	1	α Lyræ . . .	E.	S.	18 8 49.5	17.0	45.0	16.5	47.0	19.0	54.0	N.	46.5	25.5	1.0	40.0	16.5	58.5	18 35.5
	2		W.	N.	19 7 11.0	46.5	27.5	4.5	40.0	20.0	58.5	S.	49.5	28.0	0.0	30.0	59.5	29.5	16 54.0
12	3	α Lyræ . . .	E.	N.	18 9 . .	31.5	1.0	32.0	3.0	34.0	2.0	S.	3.0	36.0	14.0	54.0	28.5	12.0	18 50.0
	4		W.	S.	19 7 20.0	2.5	43.0	18.5	57.5	33.0	9.0	N.	6.0	33.5	6.0	38.0	7.5	40.5	17 8.0
13	5	α Lyræ . . .	E.	S.	18 9 4.0	34.5	4.0	34.0	4.5	38.0	10.0	N.	4.0	43.0	19.0	58.0	35.0	16.0	18 53.5
	6		W.	N.	19 7 25.0	4.0	42.0	20.0	57.0	35.5	15.0	S.	7.0	40.5	13.5	41.5	13.0	45.0	17 11.0
15	7	α Lyræ . . .	E.	N.	18 9 9.0	38.0	8.5	38.5	8.0	41.5	11.5	S.	11.5	44.5	20.5	0.5	37.5	18.0	18 58.0
	8		W.	S.	19 7 24.0	4.5	46.5	22.5	0.5	38.0	11.0	N.	11.5	40.0	12.0	44.0	13.5	44.5	17 14.5
16	9	α Lyræ . . .	E.	S.	18 9 12.0	39.0	9.5	40.0	10.0	43.5	16.5	N.	16.0	49.5	27.0	4.5	44.0	22.5	19 2.0
	10		W.	N.	19 7 24.5	5.5	45.5	23.5	0.5	36.0	16.5	S.	10.5	44.0	17.0	47.0	16.5	48.0	17 15.0
17	11	α Lyræ . . .	E.	N.	18 9 13.5	42.0	13.5	42.0	14.0	47.0	17.0	S.	13.0	48.0	25.0	2.0	41.5	21.0	19 1.0
	12		W.	S.	19 7 27.5	9.0	51.0	26.0	6.0	41.5	17.0	N.	13.0	46.0	15.5	46.5	15.5	47.0	17 15.0
20	13	α Lyræ . . .	E.	S.	18 9 . .	47.3	18.5	49.0	20.0	53.5	25.0	N.	. .	59.5	38.5	16.5	53.5	35.5	19 14.5
	14		W	N.	19 7 35.0	13.0	53.0	31.0	8.0	47.3	24.3	S.	20.5	52.0	27.0	56.5	27.0	58.0	17 17.0:
22	15	α Lyræ . . .	E.	N.	18 9 29.5	58.0	28.5	59.0	30.5	2.5	32.0	S.	31.0	6.0	41.5	21.5	59.0	41.0	19 21.0
	16		W.	S.	19 7 41.5	21.0	0.5	38.0	17.0	54.5	29.0	N.	29.0	59.0	29.0	2.0	31.0	1.0	17 30.5
24	17	α Lyræ . . .	E.	S.	18 9 34.0	2.0	33.0	2.5	33.5	7.0	39.5	N.	32.0	9.5	48.5	26.0	4.0	44.5	19 22.0
	18		W.	N.	19 7 46.0	24.0	5.0	42.0	19.5	58.5	35.0	S.	30.0	2.5	36.5	6.5	37.0	8.0	17 34.5
27	19	α Lyræ . . .	E.	N.	18 9 46.0	14.0	43.5	14.5	45.7	18.0	48.5	S.	46.5	20.0	58.3	36.3	13.0	53.5:	19 34.7
	20		W.	S.	19 7 56.0	35.7	17.0	54.0	33.7	10.0:	44.0	N.	42.0	11.3	42.0	15.0	44.3	16.0	17 44.3
30	21	α Lyræ . . .	E.	S.	18 9 52.7	20.0	51.5	20.5	52.0	24.5	57.3	N.	51.5	29.0	7.0	44.5	22.7	4.0	19 42.0
	22		W.	N.	19 7 59.5	36.5	17.7	55.5	33.0	12.0	50.0	S.	43.0	16.0	49.3	20.5	49.0	21.3	17 48.0
July 4	23	α Lyræ . . .	E.	N.	18 9 56.5	25.3	57.0	26.3	57.5:	30.5	0.5	S.	58.5	32.7	9.0	48.5	24.5	6.0	19 47.0
	24		W.	S.	19 8 2.0	41.3	22.5	1.5	40.0	16.5	51.0	N.	. .	18.3	51.0:	22.0	51.3	22.0	17 . .
5	25	α Lyræ . .	E.	S.	18 10 0.0	27.5	57.0	29.0	57.0	31.5	6.0	N.	0.0	38.0	16.0	54.5	31.5	11.0	19 49.5
	26		W.	N.	19 8 4.0	42.0	22.5	0.0	37.0	17.0	54.5	S.	50.0	23.0	55.0	25.5	55.5	27.0	17 54.0
6	27	α Lyræ . . .	E.	N.	18 10 2.5	32.0	3.0	32.5	3.5	36.0	5.0	S.	4.5	39.5	16.0	55.0	30.5	13.5	19 53.0
	28		W.	S.	19 8 5.0	45.0	27.5	3.0	42.0	18.5	53.0	N.	54.0	24.0	55.5	27.5	57.0	27.5	17 57.0
8	29	α Lyræ . . .	E.	N.	18 10 4.0	34.3	5.0	34.3	6.7	38.0	9.3	S.	8.0	41.0	19.5	7.3	34.5	17.0	19 55.0
	30		W.	S.	19 8 9.0	48.5	30.5	8.0	45.0	23.0	57.0	N.	54.0	25.3	58.0	28.7	58.0	29.0	17 58.7
9	31	α Lyræ . . .	E.	N.	18 10 7.5	36.0	8.5	37.5	8.5	41.5	11.0	S.	11.5	43.0	22.5	1.5	37.5	19.5	20 0.5
	32		W.	S.	19 8 8.5	49.5	31.5	9.0	49.0	24.0	58.0	N.	59.0	28.0	1.0	32.5	2.5	33.5	18 3.0
11	33	α Lyræ . . .	E.	S.	18 10 15.5	43.0	14.0	44.0	15.0	47.0	20.5	N.	14.5	52.0	30.0	8.5	47.0	29.0	20 5.5
	34		W.	N.	19 8 15.5	53.5	35.0	12.5	50.0	30.0	7.5	S.	59.5	31.5	7.0	38.0	7.0	38.0	18 5.0
15	35	α Lyræ . . .	E.	S.	18 10 24.5	54.0	24.5	54.0	25.0	58.5	32.0	N.	28.0	3.0	45.0	20.5	58.0	38.0	20 17.5
	36		W.	N.	19 8 22.0	0.5	40.0	20.0	58.0	35.5	13.0	S.	11.0	42.0	16.0	47.0	18.0	47.0	18 14.0
16	37	α Lyræ . . .	E.	S.	18 10 29.3	57.5	27.5	57.7	29.0	1.5	35.5	N.	29.0	8.0	45.0	24.7	2.0	42.3	20 24.0
	38		W.	N.	19 8 24.0	4.0	44.0	21.3	1.0	37.7	16.0	S.	13.0	45.0	19.0	49.0	19.3	50.3	18 18.5
22	39	α Lyræ . . .	E.	N.	18 10 42.0	11.0	43.5	12.0	44.5	15.5	47.5	S.	45.5	18.5	0.0	38.5	14.0	57.0	20 35.0
	40		W.	S.	19 8 36.0	17.5	58.5	33.5	14.0	50.5	25.0	N.	24.0	53.5	26.0	58.0	27.5	57.5	18 27.0
23	41	α Lyræ . . .	E.	S.	18 10 46.3	14.5	45.0	15.0	46.3	19.5	52.5	N.	47.3	24.0	3.3	40.7	19.5	0.0	20 38.3
	42		W.	N.	19 8 39.0	17.7	58.0	36.0	12.7:	52.3	30.0	S.	25.7	59.0	32.7	3.3	33.0	3.7	18 32.7
25	43	α Lyræ . . .	E.	N.	18 10 51.7	20.3	52.0	21.3	52.5	25.0	55.3	S.	55.3	29.0	6.3	46.0	23.0	3.7	20 45.0
	44		W.	S.	19 8 43.0	23.7	5.3	42.5	22.0	58.7	32.7	N.	33.0	3.0	34.7	7.3	35.7	8.0	18 37.0
27	45	α Lyræ . . .	E.	S.	18 10 53.7	21.5	52.3	22.0	53.3	26.3	59.0	N.	53.3	32.0	9.5	47.0	26.5	4.5	20 44.3
	46		W.	N.	19 8 44.5	23.5	3.7	41.5	20.0	59.0	35.5	S.	29.5	3.0	36.0	7.0	36.3	7.3	18 35.0
28	47	α Lyræ . . .	E.	N.	18 10 53.0	. .	54.0	23.0	55.3	27.0	57.0	S.	. .	32.0	10.5	48.5	26.0	7.0	20 47.5
	48		W.	S.	19 8 45.5	24.0	6.0	42.5	22.0	59.5	33.0	N.	33.7	4.0	35.7	8.0	37.0:	9.0	18 38.3
30	49	α Lyræ . . .	E.	S.	18 11 2.7	30.5	1.3	31.0	2.3	35.7	9.3	N.	1.5	39.7	18.5	56.7	34.7	15.5	20 54.0
	50		W.	N.	19 8 51.0	40.0	10.5	47.7	26.5	6.0	42.7	S.	38.5	12.0	45.0	16.3	46.3	16.5	18 45.0

No. for reference.	LEVEL READINGS.				Mean, ½ (S.-N.)	Correction for level.	Apparent declination.	Reduction to 1860.0.	Seconds of mean declination, 1860.0.	Weight.	Observer.	REMARKS.
	Before reversal.		After reversal.									
	N.	S.	N.	S.								
	d.	d.	d.	d.	d.	″	° ′ ″	″	° ′ ″			
1	52.45	48.18	51.18	48.28	— 1.79	— 1.59	38 39 36.11	— 15.59	38 39 20.52	2	Ha.	
2	49.40	46.95	49.32	46.08	1.42					2		
3	56.50	54.10	56.12	53.18	1.33	1.38	37.35	16.99	20.36	2		Very unsteady.
4	56.72	53.30	55.75	53.30	1.47					2		
5	58.82	54.35	57.98	54.52	1.98	1.92	36.95	17.31	19.64	3		
6	58.55	54.98	58.60	54.52	1.91					2		
7	51.10	48.20	51.30	48.15	1.51	1.50	38.44	18.01	20.43	4		
8	52.00	48.78	51.65	48.70	1.54					4		
9	46.90	43.38	46.88	43.55	1.71	1.72	38.86	18.36	20.50	3½		
10	47.58	44.48	47.95	43.82	1.81					3		
11	46.12	43.72	47.75	44.35	1.45	1.46	38.76	18.71	20.05	3		
12	48.80	45.50	48.88	46.10	1.52					3		
13	52.02	48.62	52.25	49.92	1.43	1.35	39.65	19.66	19 99	2	N.	Wire A rejected.
14	53.52	51.30	54.30	51.30	1.30					2		
15	47.50	45.08	48.32	45.38	1.34	1.44	40.45	20.23	20.22	3	Ha.	
16	49.00	45.52	48.70	45.85	1.58					2		
17	39.48	37.65	39.65	38.52	0.74	0.75	40.98	20.79	20.19	3		
18	40.80	39.50	41.62	39.75	0.79					3		
19	48.12	47.78	49.92	48.18	0.52	0.63	41.65	21.72	19.93	2	N.	
20	53.12	50.78	53.00	52.28	0.76					2		
21	49.88	47.38	49.95	47.82	1.16	1.11	43.13	22.76	20.37	3		
22	50.52	48.45	50.75	48.40	1.10					3		
23	50.60	49.32	51.55	49.38	0.86	0.86	43.90	24.01	19.89	1		
24	52.58	49.75	51.95	51.22	0.89					2		
25	48.98	47.28	48.78	48.35	0.53	0.49	44.77	24.29	20.48	2	Ha.	
26	49.65	48.95	50.05	48.92	0.46					2		
27	45.65	43.82	46.02	44.00	0.96	0.91	44.72	24.55	20.17	4		
28	46.48	44.20	46.05	44.75	0.89					4		
29	47.18	46.10	47.82	46.42	0.62	0.66	45.06	25.08	19.98	3	N.	
30	48.95	47.00	48.50	47.58	0.72					3		
31	48.82	48.15	49.42	48.15	0.48	0.60	45.24	25.36	19.88	3	Ha.	
32	50.05	48.30	50.02	48.82	0.74					2		
33	45.58	44.55	46.10	45.05	0.52	0.49	46.62	25.98	20.64	3		
34	46.92	46.02	47.10	46.12	0.47					2		
35	59.70	56.65	59.98	57.68	1.34	1.11	47.33	27.29	20.04	2		
36	60.52	59.08	61.60	59.35	0.92					1		
37	59.32	55.90	59.02	56.90	1.38	1.30	47.51	27.58	19.93	3	N.	
38	59.72	57.98	61.05	57.75	1.26					2		
39	68.50	66.68	69.82	66.65	1.25	1.44	49.03	29.08	19.95	1	Ha.	
40	71.78	68.00	71.68	68.92	1.64					1		
41	64.15	62.10	64.12	62.68	0.87	0.78	49.62	29.34	20.28	4	N.	Clock fast 12m. 11s.3. Azimuth error 4s.3.
42	65.80	64.60	66.38	64.68	0.72					4		
43	66.60	65.90	67.12	66.05	0.44	0.38	50.19	29.91	20.28	3		
44	67.92	67.10	67.92	67.42	0.33					4		
45	59.12	57.62	59.05	58.02	0.63	0.54	50.84	30.51	20.33	3		
46	59.25	58.35	59.38	58.40	0.47					4		
47	54.68	54.58	55.20	54.68	0.16	0.24	51.05	30.81	20.24	4		
48	56.62	55.82	56.65	56.15	0.32					3		
49	51.18	50.18	51.40	50.52	0.47	— 0.40	38 39 51.43	— 31.34	38 39 20.09	4		
50	52.42	51.98	52.85	51.88	— 0.35					3		

DATE.	No. for reference.	OBJECT.	Vertical.	Telescope.	TIMES OF TRANSIT OVER WIRES.							Telescope	TIMES OF TRANSIT OVER WIRES.						
					A.	B.	C.	D.	E.	F.	G.		G.	F.	E.	D.	C.	B.	A.
					h. m. s.	s.	s.	s.	s.	s.	s.		s.	s.	s.	s.	s.	s.	m. s.
1864. Aug. 1	1	α Lyræ	E.	N.	18 11 9.3	39.0	10.0	39.3	11.5	43.3	14.0	S.	15.0	49.3	27.5	6.3	42.0:	25.0	21 5.3
	2		W.	S.	19 8 56.5	37.5	19.0	56.5	35.0	13.0	46.7	N.	49.3	19.0	50.7	22.7	52.0	23.0	18 52.5
3	3	α Lyræ	E.	S.	18 11 11.0	39.0	9.7	39.0	10.7	44.3	17.3	N.	11.0	49.5	27.7	6.0	43.5	24.5	21 3.5
	4		W.	N.	19 8 57.7:	36.0	17.0	55.0	32.7	10.5:	49.5	S.	44.0	17.7	51.5	22.0	52.0	22.7	18 51.0
5	5	α Lyræ	E.	N.	18 11 15.7	45.5	16.5	45.7	17.3	49.5	20.0	S.	22.0	56.5	33.0	12.0	49.5	30.5	21 11.7
	6		W.	S.	19 9 0.5	41.5	22.7	0.3	39.7	17.0	50.5	N.	52.7	22.5	54.5	26.5	55.7	27.5	18 57.0
9	7	α Lyræ	E.	S.	18 11 25.0	53.0	24.0	53.5	25.0	58.0	30.0	N.	26.0	2.0	42.5	20.0	59.0	38.5	21 17.0
	8		W.	N.	19 9 9.5	49.0	28.5	6.0	44.0	22.5	2.5	S.	55.0	28.5	3.0	33.0	3.0	33.5	19 0.5
10	9	α Lyræ	E.	N.	18 11 27.0	56.5	28.0	58.5	28.5	1.0	30.5	S.	33.5	6.5	44.5	24.0	0.0	42.0	21 24.0
	10		W.	S.	19 9 10.0	50.5	34.0	9.5	49.0	26.5	0.5	N.	1.0	32.5	5.0	36.5	6.0	36.0	19 7.0
12	11	α Lyræ	E.	S.	18 11 37.5	6.5	36.5	6.0	37.0	10.5	44.5	N.	38.0	14.0	53.5	33.0	10.0	51.5	21 29.5
	12		W.	N.	19 9 . .	0.5	41.5	19.0	57.0	36.5	14.5	S.	7.0	38.5	14.5	45.0	13.5	46.0	19 13.0
15	13	α Lyræ	E.	N.	18 11 44.5	14.5	45.5	14.5	47.0	19.5	49.0	S.	50.0	23.0	0.0	40.0	17.0	59.0	21 40.0
	14		W.	S.	19 9 . .	8.0	51.0	28.5	5.5	45.0	17.0	N.	18.0	49.0	22.0	52.0	19.5	53.5	19 23.5
23	15	α Lyræ	E.	S.	18 12 3.0	30.0	1.5	30.0	1.3	35.0	8.5	N.	4.0	42.0	21.0	0.0	40.5	18.5	21 57.0
	16		W.	N.	19 9 41.0	19.5	0.5	36.5	16.0	56.0	31.5	S.	31.0	4.0	37.0	9.0	38.5	10.0	19 37.5
30	17	α Lyræ	E.	S.	18 12 . .	. .	27.5	57.5	28.0	3.0	35.7	N.	30.7	8.0	47.0	26.0	3.5	44.0	22 23.3
	18		W.	N.	19 10 3.0	43.0	24.7	2.5	39.5	19.5	57.5	S.	53.3:	26.3	0.0	32.0	1.7	32.5	20 0.0
31	19	α Lyræ	E.	N.	18 12 31.5	2.0	35.0	1.0	34.0	5.0	36.0	S.	36.0	11.0	48.0	25.5	4.0	46.0	22 27.0
	20		W.	S.	19 10 10.5	53.0	33.0	9.5	49.0	26.0	1.0	N.	59.5	. .	2.0	31.0	2.0	33.5	20 4.0
Sept. 2	21	α Lyræ	E.	S.	18 12 39.0	8.5	40.0	9.0	41.0	13.5	44.0	N.	45.0	20.0	58.5	35.0	13.0	55.5	22 36.5
	22		W.	N.	19 10 . .	55.0	37.0	14.5	54.0	31.5	7.0	S.	6.5	37.0	9.5	40.5	11.0	41.0	20 11.0
10	23	α Lyræ	E.	S.	18 12 55.0	23.0	54.3	23.0	55.3	27.5	2.0:	N.	56.5	35.0	13.5	52.5	29.5	10.0	22 49.0
	24		W.	N.	19 10 29.5	8.0	48.3	26.7	5.5	43.0	22.0	S.	16.0	51.0	23.0	55.5	24.7	56.0	20 23.5
12	25	σ Cygni	E.	N.	21 3 55.0	40.0	28.5	16.5	5.0	59.0	51.5	S.	46.5	11.5	1.5	20.0	15.0	. .	24 . .
	26		W.	S.	21 28 . .	. .	55.0	34.0	58.0	47.0	11.0	N.	8.0	56.0	52.5	46.0	30.0	19.5	49 3.0
13	27	α Lyræ	E.	N.	18 13 2.0	30.7	2.7	32.5	4.3	37.0	6.7	S.	9.0	42.5	21.0	59.3	36.3	18.5	22 59.5
	28		W.	S.	19 10 36.0	16.7	58.7	36.0	15.0	52.5	27.3	N.	28.7	58.0	31.0	2.7	32.3	3.7	20 33.0
17	29	α Lyræ	E	S.	18 13 15.0	43.3	13.5	44.0	15.0	48.3	21.5	N.	15.3	55.0:	33.0	12.0	49.0	30.7	23 9.0
	30		W	N.	19 10 47.0:	26.5:	7.0:	45.7	24.5	2.5	40.0	S.	36.0	10.0	42.7	15.0	45.3	16.0	20 43.0
20	31	α Lyræ	E.	N.	18 13 21.7	51.0	22.3	51.7	22.7	56.0	25.3	S.	30.0	3.0:	41.0:	20.7	57.5	40.3	23 20.0
	32		W.	S.	19 10 53.3	33.7	16.7	54.0	33.0	11.0	44.5	N.	47.0	17.0	50.7	21.7	51.5	22.5	20 52.7
	33	61^{1} Cygni	E.	N.	20 18 23.8	40.7	58.6	16.0	33.5	52.4	9.2	S.	45.5	2.3	21.9	41.0	59.0	18.1	23 38.5
	34		W.	S.	22 7 37.8	56.5	16.4	34.3	53.2	12.3	29.0:	N.	. .	. .	40.9	59.4	. .	34.0	12 52.0
	35	σ Cygni	E.	S.	21 5 . .	. .	53.0	37.5	31.5	23.5	22.0:	N.	15.0	49.0	44.0	14.0	5.0	. .	21 26 .
	36		W.	N.	21 32 . .	. .	. .	36.0	3.0	55.0	33.0	S.	23.0	23.0	16.5	8.0	54.5	. .	21 47 .
27	37	α Lyræ	E.	S.	18 13 48.7	16.5	47.3	16.3	49.3	21.5	55.5	N.	48.0	26.7	4.5	44.0	21.3	2.5	23 40.7
	38		W.	N.	19 11 21.5	58.7	39.3	17.0	56.7	35.0	13.0	S.	6.7	41.0	13.7	46.3	15.0	46.0	21 14.0
Oct. 7	39	α Lyræ	E.	N.	18 14 5.0	35.0	6.0	36.0	8.5	40.3	9.7	S.	14.0	48.3	26.0	5.3	42.3	24.7	24 5.5
	40		W.	S.	19 11 37.5	18.0	0.0	37.0	16.3	54.5	28.7	N.	. .	0.3	32.0	5.0	33.5	5.0	21 34.7
10	41	α Lyræ	E.	S.	18 14 16.0	44.0	14.7	44.3	16.5	49.0	23.3	N.	14.5	52.5	31.0	10.0	47.7	28.0	24 6.5
	42		W.	N.	19 11 49.0	28.0:	8.5	45.7	25.7	3.3	42.5	S.	35.7	10.7	42.7	15.0	14.5	15.3	21 42.7
11	43	α Lyræ	E.	N.	18 14 15.0	44.3	16.5	45.7	17.5	49.3	19.3	S.	23.0	57.0	34.3	14.0	51.3	32.5	24 14.0
	44		W.	S.	19 11 50.7	31.7	13.0	50.7	29.7	8.0	41.5	N.	43.7	13.5	46.7	18.0	47.5	19.0	21 48.7
	45	61^{1} Cygni	E.	S.	20 19 19.5	36.0	52.5	10.5	29.0	47.0	5.5	N.	41.0	59.5	19.0	39.0	56.5	16.0	24 34.0
	46		W.	N.	22 8 31.0	48.0	9.0	26.5	46.5	4.5	24.5	S.	0.0	18.5	37.0	54.0	11.5	30.0	13 47.0
13	47	α Lyræ	E.	S.	18 14 21.7	49.7	20.7	49.7	22.5	54.3	29.0	N.	23.0	3.0	41.5	. .	58.0	38.5	24 17.0
	48		W.	N.	19 11 56.5	35.3	15.7	52.7	32.5	10.3	49.0	S.	46.7	21.0	53.3	24.7	54.0	24.7	21 52.7
14	49	α Lyræ	E.	N.	18 14 24.3	53.7	24.7	54.5	26.3	58.7	28.7	S.	31.7	5.0	43.0	22.0	59.3	41.5	24 21.7
	50		W.	S.	19 11 59.7	41.3	22.7	0.0	39.3	16.3	51.3	N.	52.0	21.3	54.5	26.0	55.7	27.0	21 55.7

No. for reference.	LEVEL READINGS.				Mean, ½ (S.–N.)	Correction for level.	Apparent declination.	Reduction to 1860.0.	Seconds of mean declination, 1860.0.	Weight.	Observer.	REMARKS.
	Before reversal.		After reversal.									
	N.	S.	N.	S.								
	d.	d.	d.	d.	d.	″	° ′ ″	″	° ′ ″			
1 2	49.80 51.72	48.42 49.95	50.05 51.70	48.68 50.52	— 0.69 0.74	— 0.71	38 39 51.88	— 31.80	38 39 20.08	4 4	N.	
3 4	59.95 60.32	58.78 59.22	59.95 60.28	59.08 59.42	0.51 0.49	0.49	52.56	32.20	20.36	3 3		Clock fast 12m. 38s.6. After this observation adjusted azimuth.
5 6	57.75 59.32	56.50 57.82	58.78 59.55	56.65 57.90	0.84 0.79	0.80	52.91	32.62	20.29	5 4		Clock fast 12m. 44s.4. Azimuth — 1s.4.
7 8	53.05 54.92	53.00 53.90	53.98 55.35	53.18 54.30	0.21 0.52	0.36	54.01	33.60	20.41	3 4	Ha.	
9 10	46.58 48.35	45.88 47.32	47.38 48.48	46.65 47.92	0.36 — 0.40	0.37	54.13	33.83	20.30	3 2		
11 12	44.90 46.38	45.35 46.62	45.28 46.40	45.95 47.05	+ 0.28 0.22	— 0.25	54.31	34.32	19.99	4 4		
13 14	54.75 55.90	54.80 56.65	54.85 56.52	56.10 56.45	0.32 0.17	+ 0.24	54.92	34.90	20.02	3 2		
15 16	53.92 57.52	55.40 58.95	54.88 59.20	56.58 59.18	0.80 + 0.35	+ 0.56	57.06	36.35	20.71	2 2		
17 18	63.28 66.00	63.35 66.08	64.02 66.98	63.85 65.92	— 0.02 — 0.24	— 0.13	57.74	37.41	20.33	3 3	N.	Cloudy.
19 20	62.58 67.18	63.05 66.40	63.75 67.72	64.15 67.62	+ 0.22 — 0.22	0.00	57.21	37.52	19.69	2 2	Ha.	
21 22	61.05 64.75	62.85 64.38	63.10 64.90	62.75 65.75	+ 0.36 0.12	+ 0.24	58.31	37.75	20.56	2 3		
23 24	62.98 63.85	63.02 64.32	63.28 64.20	63.48 63.95	0.06 0.06	0.06	58.93	38.82	20.11	3 3	N.	
25 26	62.88 63.48	65.65 65.40	63.48 63.60	65.40 65.52	1.17 0.96	1.05	38 50 5.07	90.40	34.67	3 3	Ha.	Only one set of level readings between the reversals. * did not cross wires A and B in moving south of the zenith.
27 28	58.52 61.30	59.92 61.58	59.65 61.18	60.32 62.25	0.52 0.34	0.42	38 39 59.20	38.97	20.23	4 4	N.	
29 30	55.48 57.88	55.72 58.58	55.98 58.68	56.28 58.70	0.14 0.18	0.16	59.36	39.21	20.15	4 2–3		
31 32	58.48 61.60	59.18 61.45	58.82 61.72	59.45 62.18	0.33 0.08	0.20	59.72	39.49	20.23	4 3		
33 34	62.78 64.90	63.60 64.70	63.60 64.55	63.15 65.10	0.09 0.09	0.09	38 5 31.69	89.20	2.49			
35 36	64.42 64.05	64.05 65.00	64.05 64.90	64.95 64.68	0.13 0.18	0.15	38 50 6.69	92.00	34.69			
37 38	55.72 58.22	55.81 58.30	55.92 58.70	56.35 58.40	+ 0.13 — 0.06	+ 0.04	38 39 59.85	39.61	20.24	4 3		
39 40	56.65 59.40	56.48 58.58	56.45 60.28	57.25 58.52	+ 0.16 — 0.64	— 0.24	59.93	39.73	20.20	4 3		
41 42	46.60 48.45	49.58 49.88	46.78 47.78	49.20 50.70	+ 1.35 1.09	+ 1.20	60.04	39.51	20.53	4 3		
43 44	42.32 44.18	45.30 47.12	42.18 44.52	45.28 47.72	1.52 1.54	1.51	59.61	39.43	20.18	4 4		
45 46	46.10 50.02	48.85 53.78	46.45 51.08	49.42 53.80	1.43 1.62	1.50	38 5 34.76	92.32	2.44	3 3	Ha.	
47 48	48.25 50.90	50.10 53.42	48.25 51.55	51.02 53.65	1.16 1.16	1.15	38 39 59.46	39.29	20.17	3 3	N.	
49 50	46.60 47.52	49.42 50.25	46.00 47.85	48.98 50.62	1.45 + 1.38	+ 1.39	38 39 59.58	— 39.24	38 39 20.32	4 4		

DATE.	No. for reference.	OBJECT.	Vertical.	Telescope.	TIMES OF TRANSIT OVER WIRES.							Telescope.	TIMES OF TRANSIT OVER WIRES.						
					A.	B.	C.	D.	E.	F.	G.		G.	F.	E.	D.	C.	B.	A.
1864.					h. m. s.	s.	s.	s.	s.	s.	s.		s.	s.	s.	s.	s.	s.	m. s.
Oct. 17	1	a Lyræ . . .	E.	N.	18 14 36.0	5.5	37.0	6.3	38.7	11.0	40.7	S.	44.0	17.5	56.3	34.7	12.0	53.7	24 34.5
	2		W.	S.	19 12 12.3	52.7	34.5	11.0	51.0	29.0	2.7	N.	3.7	33.5	5.5	37.0	6.0	38.0	22 7.7
18	3	a Lyræ . . .	E.	S.	18 14 . .	11.7	42.5	11.7	43.7	16.0	51.0	N.	41.5	21.0	58.5	38.0	15.5	56.3	24 34.7
	4		W.	N.	19 12 16.5	56.3	37.0	14.3	54.0	32.3	11.0	S.	4.3	39.3	11.0	43.7	13.0	43.7	22 11.5
19	5	a Lyræ . . .	E.	S.	18 14 47.7	15.3	45.5	15.3	47.5	20.0	. .	N.	48.3	27.0	4.5	44.0	22.3	2.5	24 40.7
	6		W.	N.	19 12 21.0	59.3	41.5	18.0	58.0	36.0	14.0	S.	10.5	44.7	17.3	49.5	18.7	49.5	22 17.5
21	7	a Lyræ . . .	E.	N.	18 14 51.3	20.7	52.0	21.3	53.7	25.3	55.5	S.	0.7	34.0	11.7	51.3	28.0	10.0	24 50.5
	8		W.	S.	19 12 28.7	9.3	52.0	29.0	8.0	45.5	20.0	N.	21.7	51.7	24.0	55.7	25.7	57.3:	22 26.5
25	9	a Lyræ . . .	E.	S.	18 15 10.0	37.0	8.5	38.0	9.0	42.5	15.5	N.	9.0	48.0	26.0	4.0	42.5	22.5	25 0.5
	10		W.	N.	19 12 46.5	26.0	6.5	44.5	23.5	1.5	39.5	S.	35.0	9.5	41.0	13.5	42.5	14.0	22 40.5
28	11	a Lyræ . . .	E.	N.	18 15 19.0	47.5	19.0	49.5	20.5	52.0	23.0	S.	25.0	59.0	37.5	16.0	53.0	35.0	25 16.0
	12		W.	S.	19 12 . .	37.0	18.0	55.5	33.5	12.5	45.0	N.	49.0	18.5	51.0	23.0	52.0	23.0	22 52.5
Nov. 1	13	a Lyræ . . .	E.	S.	18 15 33.5	0.0	32.0	1.0	31.5	5.0	40.0	N.	33.0	11.0	49.0	29.0	5.5	46.5	25 26.0
	14		W.	N.	19 13 13.0	51.0	31.5	8.5	47.5	26.0	5.0	S.	0.0	34.0	6.0	37.5	7.0	37.5	23 4.5
5	15	a Lyræ . . .	E.	N.	18 15 36.5	5.5	36.0	5.5	38.0	8.5	40.0	S.	43.0	16.0	54.0	32.5	10.0	51.0	25 33.5
	16		W.	S.	19 13 16.0	56.5	37.5	15.0	54.5	32.5	6.0	N.	8.5	39.5	10.5	42.5	12.0	43.5	23 12.5
10	17	a Lyræ . . .	E.	S.	18 15 40.5	8.0	39.0	7.5	40.5	12.0	47.0	N.	40.0	18.0	56.0	35.5	12.0	54.0	25 32.5
	18		W.	N.	19 13 19.5	58.0	39.0	15.5	55.0	32.5	11.0	S.	5.0	39.0	11.0	43.5	12.0	. .	23 11.5
11	19	a Lyræ . . .	E.	N.	18 15 38.5	8.5	40.0	9.0	41.0	13.5	43.5	S.	46.5	20.0	58.5	36.5	14.0	56.5	25 36.5
	20		W.	S.	19 13 21.5	0.5	42.0	19.0	58.0	36.0	10.0	N.	11.5	42.5	14.0	46.0	15.0	46.5	23 16.0
14	21	a Lyræ . . .	E.	S.	18 15 51.0	19.5	49.5	19.0	50.5	23.0	56.5	N.	51.0	30.0	8.0	46.5	23.5	4.5	25 43.0
	22		W.	N.	19 13 34.5	12.0	53.0	30.0	10.0	48.5	26.0	S.	. .	55.0	27.0	58.5	28.5	59.5	23 26.5
23	23	a Lyræ . . .	E.	N.	18 16 1.3	30.3	1.3	31.5	2.5	35.0	4.5	S.	6.5	39.0	17.0	55.7	33.5	14.5	25 54.0:
	24		W.	S.	19 13 53.3	33.3	15.0	52.0	31.0	9.0	43.0	N.	42.5	12.0	44.5	16.3	45.5	17.0	23 46.5
24	25	a Lyræ . . .	E.	S.	18 16 4.7	32.5	3.3	33.0	4.5	37.3	9.5	N.	4.5:	41.0	20.3	59.3	37.0:	17.7	25 55.7
	26		W.	N.	19 13 58.0	36.8	16.7:	54.5	33.5	12.0	49.0	S.	43.0	16.7	49.0	20.0	49.0	21.0	23 . .
28	27	a Lyræ . . .	E.	N.	18 16 8.7	38.0	9.3	38.5	10.0	42.5	11.7	S.	16.5	50.0:	28.0	7.3	44.0:	26.0	26 6.3
	28		W.	S.	19 13 57.7	38.3	20.5	57.0	36.0	14.0	47.0	N.	50.0	19.0	. .	24.3	53.7	23.7	23 54.0
29	29	a Lyræ . . .	E.	S.	18 16 14.0	41.0	12.5	42.5	13.0	46.5	19.5	N.	11.5	49.0	28.0	6.5	44.0	24.0	26 2.5
	30		W.	N.	19 14 0.5	39.0	21.0	58.0	36.0	15.5	53.0	S.	43.0	17.0	50.0	22.0	50.5	21.0	23 49.5
30	31	a Lyræ . . .	E.	N.	18 16 15.0	44.0	15.7	44.7	16.7	48.7	18.3	S.	22.5	56.0	34.0	13.5	50.3	32.0	26 12.0
	32		W.	S.	19 13 59.5	40.5	21.5:	0.0	38.7	16.5	50.0	N.	53.3	22.5	55.5	27.0	56.5	27.5	23 57.0
Dec. 12	33	a Lyræ . . .	E.	N.	18 16 41.3	10.7	42.0	11.3	43.0	15.3	45.5	S.	45.5	19.0	55.5	34.0	12.0	53.5	26 33.7
	34		W.	S.	19 14 36.7	17.0	59.0	36.5	15.0	52.5	26.0	N.	25.3	55.0	27.0	58.7	28.0	59.0	24 28.5:
23	35	a Lyræ . . .	E.	N.	18 16 53.0	21.5	53.5	22.0	53.0	25.3	55.5	S.	55.5	29.3	6.0	45.5	21.5	2.5	26 43.3
	36		W.	S.	19 15 0.0	40.0	21.0	58.0	35.5	14.3	47.5	N.	46.3	16.7	48.5	20.3	49.0	20.7	24 49.5
29	37	a Lyræ . . .	E.	S.	18 17 9.0	36.7	7.5	37.0	8.3	41.0	14.5	N.	6.5	43.5	23.5	1.5	38.5	18.5	26 56.7
	38		W	N.	19 15 17.5	56.0	36.0	13.5	51.0	30.0	7.7	S.	59.0	31.5:	5.7	37.0	6.0	36.5	25 4.0

No. for reference.	LEVEL READINGS.				Mean, ½ (S.-N.)	Correction for level.	Apparent declination.	Reduction to 1860.0.	Seconds of mean declination, 1860.0.	Weight.	Observer.	REMARKS.
	Before reversal.		After reversal.									
	N.	S.	N.	S.								
	d.	d.	d.	d.	d.	″	° ″ ′	″	° ″ ′			
1 2	44.48 45.68	45.55 47.08	44.12 46.12	45.58 47.68	+ 0.63 0.74	+ 0.68	38 39 59.24	— 39.13	38 39 20.11	3 3	N.	
3 4	43.75 44.60	46.05 46.22	43.85 44.68	45.42 46.72	0.97 0.91	0.93	59.38	39.09	20.29	3 4		
5 6	46.22 47.88	48.15 49.78	46.30 48.55	48.50 50.35	1.03 0.92	0.96	59.32	39.03	20.29	4 4		
7 8	42.38 42.40	45.18 45.85	45.32 46.22	48.70 49.18	1.56 1.58	1.55	58.95	38.85	20.10	3 4		
9 10	43.88 45.18	48.08 48.75	44.10 45.98	47.88 49.42	2.00 1.75	1.85	58.62	38.30	20.32	5 5	Ha.	
11 12	46.80 49.12	49.90 50.90	47.85 49.32	50.18 51.68	1.36 1.04	1.18	58.43	37.92	20.51	3 3		
13 14	50.70 52.18	53.85 55.25	51.05 52.52	54.02 55.52	1.53 1.52	1.50	57.79	37.52	20.27	1 2		
15 16	57.70 59.82	60.85 62.58	58.18 60.02	61.60 63.10	1.64 + 1.46	+ 1.53	57.41	36.74	20.67	3 3		
17 18	44.80 45.00	43.60 44.70	45.00 45.48	43.70 45.18	— 0.62 — 0.15	— 0.38	56.35	35.89	20.46	4 4		
19 20	53.18 52.80	53.12 54.12	53.15 53.55	53.55 53.45	+ 0.04 + 0.30	+ 0.17	56.08	35.73	20.35	3 3		
21 22	59.45 65.10	62.60 67.22	61.30 65.45	63.40 67.58	1.56 1.06	0.29	55.97	35.26	20.71	1 3		
23 24	53.45 54.32	61.80 59.10	54.30 54.05	60.68 59.32	3.68 2.51	3.05	53.82	33.19	20.63	3 3	N.	
25 26	50.70 50.80	56.75 56.75	50.68 50.88	56.75 56.55	3.03 2.90	2.93	53.34	32.96	20.38	3 3		
27 28	44.05 41.58	45.00 42.88	43.20 41.60	44.28 42.45	0.51 + 0.54	+ 0.52	52.61	32.12	20.49	3 3		
29 30	31.48 31.15	30.42 29.28	31.40 31.32	29.28 28.72	— 0.80 1.12	— 0.94	52.39	31.90	20.49	3½ 3	Ha	
31 32	33.22 45.35	29.12 43.08	32.52 45.40	28.35 43.12	2.07 1.14	1.57	52.08	31.65	20.43	3 3	N.	
33 34	50.10 51.10	50.18 50.32	50.65 51.12	49.95 50.45	0.15 — 0.72	— 0.43	49.05	28.34	20.71	2 3		
35 36	52.50 53.30	58.50 54.90	54.40 52.80	56.80 55.40	+ 2.10 + 1.05	+ 1.56	45.56	24.96	20.60	2 2		
37 38	48.68 46.30	47.28 44.65	48.02 46.05	47.10 44.50	— 0.58 — 0.80	— 0.68	38 39 43.04	— 23.23	38 39 19.81	2 1		

OBSERVATIONS

WITH THE

EQUATORIAL,

1864.

OBSERVATIONS

WITH THE

EQUATORIAL.

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Jan. 5	Oeltzen N. 8459 .	56.4	8.4	20.7	2 51 8.50	1 46.765	+1 53.33	— 53.141	Corr. Chron. + 4 37.87
	(* 9)	24.3	36.2	48.3	52 36.26	4 37.060			α δ
F.	Egeria	49.7	1.7	14.1	53 1.83	5 39.905			h. m. s. ° ′ ″
	Oeltzen N. 8459 .	21.1	33.0	45.1	55 33.07	1 46.791	1 53.63	53.165	Oeltzen N. 8459, 7 49 56.30 +46 58 55.06
	(* 9)	. .	1.2	13.3	57 1.27	4 37.189			Egeria—Oeltzen N. 8459,
	Egeria	14.8	36.6	38.7	57 36.70	5 39.955			Δ α Δ δ h. m. s. m. s. ′ ″
	Oeltzen N. 8459 .	8.9	21.1	33.5	3 0 21.17	1 47.079	1 53.20	53.284	Sid. T. 3 41 41.73 + 1 51.46 —13 24.06
	Egeria	2.5	14.5	26.1	2 14.37	5 40.362			Δρ — .02 — .24
	Oeltzen N. 8459 .	36.9	48.8	1.1	3 48.93	1 47.148	1 53.34	53.173	p — .40 — 1.08
	Egeria	30.5	42.1	54.2	5 42.27	5 40.320			
	Oeltzen N. 8459 .	5.5	17.6	29.6	7 17.57	1 47.320	1 52.90	53.081	
	Egeria	58.6	10.2	22.6	9 10.47	5 40.400			
	Oeltzen N. 8459 .	44.6	26.8	38.7	12 26.70	1 47.422	1 52.83	52.920	
	Egeria	7.7	19.5	31.4	14 19.53	5 40.341			
	Oeltzen N. 8459 .	34.2	46.2	58.4	15 46.27	1 47.599	1 52.26	52.917	
	Egeria	26.5	38.5	50.6	17 38.53	5 40.515			
	Oeltzen N. 8459 .	10.3	22.4	34.6	19 22.43	1 47.512	1 52.24	52.919	
	Egeria	2.6	14.7	26.7	21 14.67	5 40.430			
	Oeltzen N. 8459 .	7.0	18.8	31.2	32 19.00	1 48.160	1 51.67	52.366	
	Egeria	58.6	10.6	22.8	34 10.67	5 40.525			
	Oeltzen N. 8459 .	0.5	12.9	25.1	36 12.83	1 48.202	1 51.50	52.637	
	Egeria	52.3	4.5	16.2	38 4.33	5 40.838			
	Oeltzen N. 8459 .	23.1	35.3	47.4	39 35.27	1 48.225	1 51.20	52.404	
	Egeria	14.2	26.6	38.6	41 26.47	5 40.628			
	Oeltzen N. 8459 .	46.5	58.6	10.9	42 58.66	1 48.430	1 50.84	52.276	
	Egeria	37.6	49.5	1.4	44 49.50	5 40.705			
	Oeltzen N. 8459 .	53.7	5.8	18.2	49 5.90	1 48.690	1 50.83	52.001	
	Egeria	44.6	56.8	8.8	50 56.73	5 40.690			
	Oeltzen N. 8459 .	2.7	14.8	26.7	53 14.73	1 48.552	1 50.74	51.909	
	Egeria	53.4	5.4	17.6	55 5.47	5 40.460			
	Oeltzen N. 8459 .	9.8	21.9	34.2	58 21.97	1 48.830	1 50.26	52.079	
	Egeria	0.2	12.2	24.3	4 0 12.23	5 40.908			
	Oeltzen N. 8459 .	54.5	6.7	18.7	2 6.63	1 48.920	1 50.17	51.779	
	Egeria	44.9	56.5	9.0	3 56.80	5 40.698			
	Oeltzen N. 8459 .	21.8	34.2	46.2	5 34.07	1 48.935	1 49.73	51.791	
	Egeria	12.0	23.6	35.8	7 23.80	5 40.725			
	Oeltzen N. 8459 .	48.5	0.2	12.5	9 0.40	1 49.219	1 49.67	51.452	
	Egeria	38.3	50.1	1.8	10 50.07	5 40.670			
	Oeltzen N. 8459 .	57.8	9.8	21.9	13 9.83	1 49.060	1 49.60	51.630	
	Egeria	47.4	59.3	11.6	14 59.43	5 40.689			
	Oeltzen N. 8459 .	22.0	34.0	46.0	16 34.00	1 48.989	+1 49.20	— 51.544	
	Egeria	11.0	23.4	35.2	18 23.20	5 40.542			

EGERIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		REMARKS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Jan. 6	Oeltzen N. 8459 .	57.8	10.0	22.4	3 15 10.07	1 40.400	+0 38.66	− 24.476	Corr. Chron. + 4 39.61
F.	Egeria	36.4	48.6	1.2	15 48.73	3 34.960			α δ h. m. s. ° ′ ″
	Oeltzen N. 8459 .	14.5	27.4	39.6	20 27.17	1 40.480	0 38.63	24.008	Oeltzen N. 8459, 7 49 56.33 +46 58 55.08
	Egeria	53.6	5.6	18.2	21 5.80	3 34.572			Egeria—Oeltzen N. 8459,
	Oeltzen N. 8459 .	54.9	6.8	18.9	23 6.87	1 40.469	0 37.90	24.067	Δ α Δ δ h. m. s. m. s. ′ ″
	Egeria	32.7	44.8	56.8	23 44.77	3 34.620			Sid. T. 3 45 8.31 + 0 37.44 − 6 5.20
	Oeltzen N. 8459 .	14.6	27.1	38.9	28 26.87	1 40.560	0 38.13	23.976	Δ ρ − .01 − .10
	Egeria	53.1	4.7	17.2	29 5.00	3 34.620			p − .40 − .87
	Oeltzen N. 8459 .	4.2	15.7	27.9	31 15.93	1 40.675	0 37.94	24.110	
	Egeria	42.0	53.7	5.9	31 53.87	3 34.869			
	Oeltzen N. 8459 .	32.3	44.7	56.4	33 44.47	1 40.829	0 37.96	24.019	
	Egeria	10.2	22.5	34.6	34 22.43	3 34.932			
	Oeltzen N. 8459 .	41.6	54.5	6.7	38 54.27	1 40.720	0 37.53	24.106	
	Egeria	19.9	31.7	43.8	39 31.80	3 34.910			
	Oeltzen N. 8459 .	10.6	22.8	35.2	42 22.87	1 40.845	0 37.10	23.911	
	Egeria	47.9	0.0	12.0	42 59.97	3 34.840			
	Oeltzen N. 8459 .	32.4	44.2	56.5	53 44.37	1 41.210	0 37.03	23.398	
	Egeria	9.0	21.0	33.2	54 21.40	3 34.692			
	Oeltzen N. 8459 .	54.5	6.7	19.1	55 6.77	1 41.262	0 36.73	23.432	
	Egeria	31.5	. .	55.5	55 43.50	3 34.778			
	Oeltzen N. 8459 .	45.2	57.3	9.5	56 57.33	1 41.357	0 36.32	23.448	
	Egeria	21.5	. .	45.8	57 33.65	3 34.889			
	Oeltzen N. 8459 .	26.9	39.2	51.8	58 39.30	1 41.475	0 36.47	23.310	
	Egeria	3.9	15.8	27.6	59 15.77	3 34.869			
	Oeltzen N. 8459 .	58.0	10.2	22.2	4 0 10.13	1 41.310	+0 36.37	− 23.281	
	Egeria	34.5	. .	58.5	0 46.50	3 34.675			
Jan. 9	Egeria	20.1	32.7	45.1	3 38 32.63	1 42.027			m. s. Corr. Chron. + 4 47.43
	Oeltzen N. 8445 .	18.6	30.8	42.9	40 30.77	2 35.269	−1 58.14	+ 10.373	α δ
H.	Oeltzen N. 8459 .	31.0	43.5	55.6	41 43.37	5 36.540	3 10.74	54.514	h. m. s. ° ′ ″
	Egeria	4.3	16.1	29.0	43 16.47	1 41.919			Oeltzen N. 8459, 7 49 56.38 +46 58 55.45 Oeltzen N. 8445, 7 48 43.80 +47 10 6.50
	Oeltzen N. 8445 .	3.0	15.0	27.4	45 15.13	2 35.431	1 58.66	10.643	
	Oeltzen N. 8459 .	15.5	27.5	39.6	46 27.53	5 36.571	3 11.06	54.653	Egeria—Oeltzen N. 8459,
	Egeria	9.0	21.2	33.5	48 21.23	1 41.965			Δ α Δ δ h. m. s. m. s. ′ ″
	Oeltzen N. 8445 .	8.0	20.1	32.3	50 20.13	2 35.355	1 58.90	10.521	Sid. T. 3 59 48.82 − 3 11.73 +14 0.21
	Oeltzen N. 8459 .	20.4	32.6	45.0	51 32.67	5 36.454	3 11.44	54.490	Δ ρ + .02 + .24 p − .40 − .74
	Egeria	7.9	19.8	32.0	53 19.90	1 42.056			
	Oeltzen N. 8445 .	6.8	19.0	31.0	55 18.93	2 35.638	1 59.03	10.713	Egeria—Oeltzen N. 8445, h. m. s.
	Oeltzen N. 8459 .	19.5	31.2	43.3	3 56 31.33	5 36.740	3 11.43	54.685	Sid. T. 3 59 48.82 − 1 59.14 + 2 44.51
	Egeria	47.0	59.1	11.3	4 10 59.13	1 42.200			Δ ρ .00 + .03
	Oeltzen N. 8445 .	46.9	59.0	11.4	12 59.10	2 35.970	1 59.97	10.901	p − .40 − .74
	Oeltzen N. 8459 .	59.9	12.0	23.9	14 11.93	5 37.182	3 12.80	54,983	
	Egeria	26.7	39.1	51.1	15 38.97	1 41.962			
	Oeltzen N. 8445 .	27.1	39.2	51.1	17 39.13	2 36.034	2 0.16	11.203	
	Oeltzen N. 8459 .	39.7	51.9	4.0	18 51.87	5 37.336	−3 12.90	+ 55.375	
Jan. 11	Egeria	17.5	29.6	41.6	4 43 29.57	5 46.782			m. s. Corr. Chron. + 4 53.29
F.	Radcliffe 2048 . .	49.5	1.3	13.2	44 1.33	1 31.630	0 31 76	− 75.153	α δ
	Egeria	25.4	37.4	49.7	48 37.50	5 46.898			h. m. s. ° ′ ″ Radcliffe 2048, 7 44 38.47 +47 43 51.93
	Radcliffe 2048 . .	57.7	9.9	22.1	49 9.90	1 31.871	0 32.40	75.028	Egeria—Radcliffe 2048,
	Egeria	20.8	33.2	45.5	53 33.17	5 47.249			Δ α Δ δ
	Radcliffe 2048 . .	53.8	5.6	17.9	54 5.77	1 31.878	0 32.60	75.372	h. m. s. m. s. ′ ″
	Egeria	15.9	27.9	39.4	57 27.73	5 47.222			Sid. T. 4 55 40.28 − 0 32.46 −19 13.70
	Radcliffe 2048 . .	48.7	0.4	13.3	58 0.80	1 31.875	−0 33.07	− 75.348	Δ ρ − .02 − .32 p − .32 .00

EURYNOME.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		REMARKS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Jan. 9	Eurynome . . .	45.7	54.6	3.0	1 54 54.43	2 38.413			Corr. Chron. + 4 46.92
	Weisse I, 269 . .	..	41.1	..	55 41.10	3 34.790	−0 46.67	+ 9.162	α δ
H.	Eurynome . . .	44.1	52.7	1.2	58 52.67	2 38.295			h. m. s. ° ′ ″ Weisse I, 269, 1 17 20.16 + 5 46 34.17
	Weisse I, 269 . .	31.0	39.3	47.7	1 59 39.33	3 34.753	0 46.66	9.243	
	Eurynome . . .	35.0	43.4	51.9	2 5 43.43	2 37.795			Eurynome—Weisse I, 269, Δ α Δ δ
	Weisse I, 269 . .	21.2	29.3	37.9	6 29.47	3 34.581	0 46.04	9.571	h. m. s. m. s. ′ ″ Sid. T. 2 20 5.87 − 0 45.50 + 2 29.62
	Eurynome . . .	6.7	15.1	23.6	8 15.13	2 37.712			Δ ρ .00 + .06
	Weisse I, 269 . .	52.7	1.2	9.4	9 1.10	3 34.615	0 45.97	9.688	p − .07 + 2.78
	Eurynome . . .	13.5	21.9	30.2	20 21.87	2 37.443			
	Weisse I, 269 . .	58.9	7.0	15.4	21 7.10	3 34.434	0 45.23	9.776	
	Eurynome . . .	54.0	2.7	11.3	23 2.67	2 37.348			
	Weisse I, 269 . .	39.3	48.0	56.0	23 47.77	3 34.682	0 45.10	10.119	
	Eurynome . .	51.1	0.2	8.6	24 59.97	2 37.420			
	Weisse I, 269 . .	36.6	44.9	53.3	25 44.93	3 34.780	0 44.96	10.145	
	Eurynome . . .	18.6	27.0	35.1	27 26.90	2 37.422			
	Weisse I, 269 . .	3.2	11.3	19.8	28 11.43	3 34.526	0 44.53	9.889	
	Eurynome . . .	5.0	13.5	21.9	34 13.47	2 37.190			
	Weisse I, 269 .	49.4	58.0	5.9	34 57.77	3 34.610	−0 44.30	+ 10.205	
Jan. 12	Weisse I, 328 . .	16.6	25.0	33.4	2 30 25.00	2 46.175			m. s.
	Eurynome . . .	4.0	12.2	20.6	31 12.27	3 45.735	+0 47.27	− 12.345	Corr. Chron. + 4 55.20 α δ
H.	Weisse I, 328 . .	11.8	20.2	28.7	33 20.23	2 46.228			h. m. s. ° ′ ″
	Eurynome . . .	59.1	7.3	16.1	34 7.50	3 45.830	0 47.27	12.387	Weisse I, 328, 1 20 15.96 + 6 15 23.98
	Weisse I, 328 . .	31.1	39.2	47.9	35 39.40	2 46.257			Eurynome—Weisse I, 328,
	Eurynome . . .	19.0	27.0	35.2	36 27.07	3 45.888	0 47.67	12.416	Δ α Δ δ h. m. s. m. s. ′ ″
	Weisse I, 328 . .	7.9	16.1	24.6	38 16.20	2 46.248			Sid. T. 2 42 54.47 + 0 47.64 − 3 9.83
	Eurynome . . .	55.6	4.0	12.2	39 3.93	3 45.825	0 47.73	12.362	Δ ρ .00 − .08 p − .09 + 2.70
	Weisse I, 328 . .	35.1	43.4	51.9	40 43.47	2 46.287			
	Eurynome . . .	23.1	31.6	39.7	41 31.47	3 45.805	0 48.00	12.303	
	Weisse I, 328 . .	37.1	45.4	54.0	44 45.50	2 46.247			
	Eurynome . . .	25.2	33.1	41.9	45 33.40	3 45.912	+0 47.90	− 12.450	
Feb. 4	Weisse I, 1022 . .	50.6	59.0	7.3	3 38 58.97	3 42.077	+1 1.50	+ 10.784	m. s.
	Eurynome . . .	52.1	0.5	8.8	40 0.47	3 31.293			Corr. Chron. − 1 59.94 α δ
H.	Weisse I, 1022 . .	33.8	42.1	50.6	41 42.17	3 42.080	1 1.46	10.920	h. m. s. ° ′ ″
	Eurynome . . .	35.2	43.7	52.0	42 43.63	3 31.160			Weisse I, 1022, 1 58 10.87 + 9 25 27.34
	Weisse I, 1022 . .	19.3	27.6	36.2	44 27.70	3 42.016	1 1.93	10.804	Eurynome—Weisse I, 1022,
	Eurynome . . .	21.2	29.7	38.0	45 29.63	3 31.212			Δ α Δ δ h. m. s. m. s. ′ ″
	Weisse I, 1022 . .	57.4	5.8	14.2	47 5.80	3 42.100	1 1.93	10.990	Sid. T. 3 53 3.24 + 1 2.54 + 2 50.45
	Eurynome . . .	59.5	7.5	16.2	48 7.73	3 31.110			Δ ρ .00 + .07 p − .11 + 2.19
	Weisse I, 1022 . .	43.5	51.9	0.1	49 51.83	3 42.094	1 2.30	11.025	
	Eurynome . . .	45.7	54.0	2.7	50 54.13	3 31.069			
	Weisse I, 1022 . .	6.1	14.3	22.6	55 14.33	3 42.043	1 2.70	11.239	
	Eurynome . . .	8.8	17.0	25.3	56 17.03	3 30.804			
	Weisse I, 1022 . .	36.4	45.0	53.5	57 44.97	3 42.007	1 2.80	11.201	
	Eurynome . . .	39.3	47.9	56.1	3 58 47.77	3 30.806			
	Weisse I, 1022 . .	7.0	15.4	23.8	4 0 15.40	3 42.061	1 3.13	11.319	
	Eurynome . . .	10.1	18.5	27.0	1 18.53	3 30.742			
	Weisse I, 1022 . .	58.4	7.0	15.4	3 6.93	3 42.077	+1 3.20	+ 11.262	
	Eurynome . . .	1.8	10.2	18.4	4 10.13	3 30.815			

(Continued.)

EURYNOME.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Feb. 4	Weisse I, 1022 . .	39.5	47.9	56.1	4 5 47.83	3 42.090	+1 3.34	+ 11.327	
	Eurynome . . .	42.7	51.1	59.7	6 51.17	3 30.763			
H.	Weisse I, 1022 . .	42.7	51.1	59.6	9 51.13	3 42.058	+1 3.64	+ 11.380	
	Eurynome . . .	46.2	54.9	3.2	10 54.77	3 30.678			
Feb. 24	Weisse II, 615 . .	41.2	49.6	58.1	6 6 49.63	1 37.791	+0 38.44	— 57.782	m. s. Corr. Chron. — 1 25.17
	Eurynome . . .	19.6	28.1	36.5	7 28.07	5 35.572			α δ h. m. s. ° ′ ″
H.	Weisse II, 615 . .	50.5	58.8	7.5	8 58.93	1 37.690	0 38.80	57.732	Weisse II, 615, 2 36 21.05 +12 42 38.11
	Eurynome . . .	29.6	37.8	45.8	9 37.73	5 35.421			
	Weisse II, 615 . .	51.0	59.5	7.9	10 59.47	1 37.659	0 38.93	57.837	Eurynome—Weisse II, 615,
	Eurynome . . .	29.9	38.5	46.8	11 38.40	5 35.495			Δα Δδ h. m. s. m. s. ′ ″
	Weisse II, 615 . .	7.9	16.3	24.6	13 16.27	1 37.658	0 39.10	57.588	Sid. T. 6 20 20.94 + 0 39.75 —14 42.61
	Eurynome . . .	47.0	55.3	3.8	13 55.37	5 35.245			Δρ + .01 — .45 p + .17 + 2.00
	Weisse II, 615 . .	51.6	59.8	8.6	15 00.00	1 37.523	0 39.07	57.703	
	Eurynome . . .	30.7	39.0	47.5	15 39.07	5 35.225			
	Weisse II, 615 . .	19.3	27.6	36.3	17 27.73	1 37.491	0 39.50	57.659	
	Eurynome . . .	58.8	7.3	15.6	18 7.23	5 35.149			
	Weisse II, 615 . .	12.6	20.9	29.7	18 21.07	1 37.453	0 39.63	57.687	
	Eurynome . . .	52.4	0.7	9.0	19 0.70	5 35.139			
	Weisse II, 615 . .	45.3	53.6	2.0	21 53.63	1 37.339	0 39.84	57.337	
	Eurynome . . .	25.2	33.4	41.8	22 33.47	5 34.675			
	Weisse II, 615 . .	26.8	35.2	43.7	24 35.23	1 37.259	0 40.17	57.427	
	Eurynome . . .	7.0	15.5	23.7	25 35.40	5 34.685			
	Weisse II, 615 . .	35.8	44.4	52.9	26 44.37	1 37.228	0 40.26	57.454	
	Eurynome . . .	16.2	24.7	33.0	27 24.63	5 34.681			
	Weisse II, 615 . .	45.7	54.0	2.8	28 54.17	1 37.248	0 40.33	57.423	
	Eurynome . . .	26.2	34.4	42.9	29 34.50	5 34.670			
	Weisse II, 615 . .	29.2	37.6	45.8	30 37.53	1 37.040	0 40.47	57.390	
	Eurynome . . .	9.7	17.9	26.4	31 18.00	5 34.429			
	Weisse II, 615 . .	56.7	5.1	13.7	34 5.17	1 37.079	0 40.73	57.344	
	Eurynome . . .	37.6	45.7	54.4	34 45.90	5 34.422			
	Weisse II, 615 . .	17.2	25.9	34.4	37 25.83	1 36.365	+0 41.24	— 57.296	
	Eurynome . . .	58.5	7.0	15.7	38 7.07	5 33.660			
	Weisse II, 639 . .	40.7	49.1	57.7	38 49.17	3 35.350			
Feb. 27	Eurynome . . .	18.3	27.0	35.9	5 27 27.07	3 40.850			m. s. Corr. Chron. — 1 18.65
	Weisse II, 746 . .	30.2	39.0	48.0	28 39.07	3 48.890	—1 12.00	— 8.040	α δ h. m. s. ° ′ ″
H.	Eurynome . . .	1.5	10.0	18.7	30 10.07	3 40.810			Weisse II, 746, 2 44 3.45 +12 55 47.51
	Weisse II, 746 . .	14.0	23.0	30.7	31 22.57	3 48.444	1 12.50	7.634	
	Eurynome . . .	48.0	56.3	4.9	32 56.40	3 41.040			Eurynome—Weisse II, 746,
	Weisse II, 746 . .	59.9	8.0	16.4	34 8.10	3 48.540	1 11.70	7.500	Δα Δδ h. m. s. m. s. ′
	Eurynome . . .	21.8	. .	38.9	38 30.35	3 41.160			Sid. T. 5 32 57.69 — 1 11.67 — 1 57.39
	Weisse II, 746 . .	33.0	42.0	49.9	39 41.63	3 48.905	1 11.28	7.745	Δρ .00 — .04 p — .12 + 1.79
	Eurynome . . .	9.2	18.0	26.3	42 17.83	3 41.400			
	Weisse II, 746 . .	20.4	28.6	37.1	43 28.70	3 48.750	—1 10.87	— 7.350	
Mar. 2	Weisse II, 841 .	23.5 27.4	. . 35.7	48.3 44.4	6 48 35.86	4 39.078	+2 12.33	+ 27.158	m. s. Corr. Chron. — 1 13.35
F.	(* 12) . . .	. . . .	. . 44.7	56.4 53.3	50 44.53				α δ h. m. s. ° ′
	Eurynome . .	. . . .	. . 48.4	0.6 56.4	50 48.19	2 37.782			We'sse II, 841, 2 48 46.10 +13 21 52.12

(Continued.

EURYNOME.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Mar. 2	Weisse II, 841 .	26.4 30.3	. . 38.6	52.2 47.1	6 53 38.92	4 38.772	+2 12.60	+ 27.040	Eurynome—Weisse II, 841,
F.	Eurynome . .	39.2 43.1	. . 51.7	3.7 59.9	55 51.52	2 37.560			Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 7 7 10.75 + 2 14.13 + 7 1.07 Δρ — .01 .26 p — .18 + 2.01
	Weisse II, 841 .	26.3 30.2	. . 38.4	51.1 46.9	59 38.58	4 38.949	2 13.41	27.320	
	Eurynome . .	39.5 43.5	. . 52.0	4.5 0.4	59 51.99	2 27.491			
	Weisse II, 841 .	14.1 18.0	. . 26.5	38.9 35.2	7 1 26.54	4 38.887	2 13.72	27.537	
	Eurynome . .	27.8 31.7	. . 40.3	52.9 48.6	3 40.26	2 37.212			
	Weisse II, 841 .	20.5 24.6	. . 32.8	45.1 41.2	5 32.84	4 38.628	2 14.10	27.372	
	Eurynome . .	34.7 38.3	. . 46.9	59.3 55.5	7 46.94	2 37.118			
	Weisse II, 841 .	21.8 25.7	. . 34.3	46.4 42.6	9 34.16	4 33.529	2 14.40	27.613	
	Eurynome . .	. . . .	. . 48.6	0.8 57.1	11 48.56	2 36.778			
	Weisse II, 841 .	4.6 8.6	. . 17.0	29.5 25.5	13 17.04	4 38.292	2 14.76	27.535	
	Eurynome . .	19.2 23.4	. . 31.8	44.2 40.4	15 31.80	2 30.619			
	Weisse II, 841 .	49.8 53.8	. . 2.1	14.6 10.6	17 2.18	4 38.114	2 15.02	27.525	
	Eurynome . .	4.8 9.0	. . 16.9	29.5 25.8	19 17.20	2 36.451			
	Weisse II, 841 .	50.6 54.5	. . 3.0	15.2 11.3	20 2.92	4 37.820	2 15.22	27.534	
	Eurynome . .	5.8 9.6	. 18.4	30.5 26.4	22 18.14	2 36.148			
	Weisse II, 841 .	42.8 47.3	. . 55.5	8.0 3.6	24 55.44	4 37.610	+2 15.74	+ 27.877	
	Eurynome . .	59.0 2.6	. . 11.2	23.5 19.6	27 11.18	2 35.595			
Mar 3.	(* 132) W. . . .	8.6	17.2	25.8	6 36 17.20	4 47.880	+0 35.93	— 35.442	m. s. Corr. Chron. — 1 12.26
H.	Eurynome . . .	44.6	53.2	1.6	36 53.13	2 38.300			α δ h. m. s. ° ′ ″
	(* 132) W. . . .	51.3	59.4	8.2	38 59.63	4 48.080	0 35.90	35.532	(* 132) W., 2 52 21.03 +13 46 8.69
	Eurynome . . .	26.9	35.6	44.1	39 35.53	2 38.410			Eurynome— (* 132) W.,
	(* 132) W. . . .	18.9	27.1	35.7	41 27.23	4 47.980	0 36.67	35.562	Δα Δδ h. m. s. m. s. ′ ″ Sid. T. 6 48 22.93 + 0 37.02 + 9 0.61
	Eurynome . . .	55.4	4.0	12.3	42 3.90	2 38.280			Δρ + .01 — .28 p — .17 + 2.03
	(* 132) W. . . .	47.4	55.7	4.2	43 55.77	4 47.800	0 36.36	35.242	
	Eurynome . . .	23.6	32.1	40.7	44 32.13	2 38.420			
	(* 132) W. . . .	54.7	3.0	11.4	47 3.03	4 48.110	0 36.60	35.432	
	Eurynome . . .	31.0	39.9	48.0	46 39.63	2 38.540			
	(* 132) W. . . .	18.2	26.8	35.0	50 26.67	4 47.910	0 37.23	34.992	
	Eurynome . . .	55.3	4.0	12.4	51 3.90	2 38.780			
	(* 132) W. . . .	47.0	55.3	3.7	53 55.33	4 48.100	0 37.24	35.012	
	Eurynome . . .	23.9	32.6	41.2	54 32.57	2 33.950			
	(* 132) W. . . .	43.2	51.9	0.2	56.51 77	4 48.280	0 37.66	35.322	
	Eurynome . . .	21.0	29.6	37.7	57 29.43	2 38.820			
	(* 132) W. . . .	6.4	15.0	23.6	59 15.00	4 48.420	0 37.90	34.912	
	Eurynome . . .	44.3	53.0	1.4	6 59 52.90	2 39.370			
	(* 132) W. . . .	22.1	30.3	38.4	7 2 30.27	4 48.440	+0 38.53	— 35.032	
	Eurynome . . .	0.4	9.0	17.0	3 8.80	2 39.270			

EURYNOME.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
April 6	2. Weisse IV, 65 .	53.3	1.9	10.6	9 37 1.93	5 47.050	+0 32.24	+ 71.961	Corr. Chron. — 0 14.77
	(* 9)	23.3	32.1	40.6	37 32.00	1 38.295			α δ
F.	Eurynome . . .	25.0	34.6	42.9	37 34.17	1 35.090			h. m. s. ° ′ ″
	(* 12).	. .	53.2	2.0	37 53.02	1 33.571			2. Weisse IV, 65 4 4 49.96 +17 28 50.78
	2. Weisse IV, 65 .	8.6	17.1	25.8	46.17.17	5 46.418	+0 33.08	+ 71.649	Eurynome—2. Weisse IV, 65,
	(* 9)	38.4	. .	55.8	46 47.10	1 37.211			Δ α Δ δ
	Eurynome . . .	41.8	. .	58.7	46 50.25	1 34.770			h. m. s. m. s. ′ ″ Sid. T. 9 41 57.44 + 0 32.66 +18 21.27
	(* 9)	54.2	2.8	11.6	50 2.87	3 34.625			Δ ρ — .03 + .67
	Eurynome . . .	57.1	5.6	14.6	9 50 5.77	3 32.387			p + .16 + 1.94
April 7	Eurynome . . .	46.0	54.0	3.2	9 5 54.40	3 35.440			m. s. Corr. Chron. — 0 13.76
	2. Weisse IV, 183 .	24.4	33.0	42.0	8 33.13	3 45.205	—2 38.73	— 9.765	α δ
H.	Eurynome . . .	0.5	9.0	18.0	10 9.17	3 35.945			h. m. s. ° ′ ″ 2. Weisse IV, 183 4 10 10.54 +17 55 10.70
	2. Weisse IV, 183 .	38.4	47.2	56.0	12 47.20	3 45.344	2 38.03	9.399	Eurynome—2. Weisse IV, 183,
	Eurynome . . .	0.8	. .	17.9	14 9.35	3 36.054			Δ α Δ δ
	2. Weisse IV, 183 .	38.0	47.3	56.2	16 47.17	3 45.653	2 37.82	9.597	h. m. s. m. s. ′ ″ Sid. T. 9 28 57.10 — 2 36.36 — 2 20.95
	Eurynome . . .	59.4	7.8	16.8	21 8.00	3 37.733			Δ ρ + .01 — .17
	2. Weisse IV, 183 .	36.3	45.1	54.0	23 45.13	3 46.773	2 37.13	9.040	p + .17 + 1.80
	Eurynome . . .	10.4	19.0	27.7	25 19.03	3 37.796			
	2. Weisse IV, 183 .	47.2	56.1	4.8	27 56.03	3 47.127	2 37.00	9.331	
	Eurynome . . .	36.6	45.2	54.4	29 45.40	3 38.420			
	2. Weisse IV, 183 .	13.0	21.7	30.3	32 21.67	3 47.455	2 36.27	9.035	
	Eurynome . . .	4.6	13.2	21.8	34 13.20	3 38.700			
	2. Weisse IV, 183 .	40.0	49.0	57.7	36 48.90	3 47.934	2 34.70	9.234	
	Eurynome . . .	39.1	47.9	56.4	45 47.80	3 34.626			
	2. Weisse IV, 183 .	13.9	22.5	31.1	48 22.50	3 43.508	2 34.70	8.882	
	Eurynome . . .	5.5	14.1	22.9	50 14.17	3 35.050			
	2. Weisse IV, 183 .	39.7	49.0	57.6	52 48.77	3 44.036	2 34.60	8.986	
	Eurynome . . .	59.2	8.1	17.0	55 8.10	3 36.016			
	2. Weisse IV, 183 .	32.4	42.1	50.7	9 57 41.73	3 44.647	—2 33.63	— 8.631	

COMET, 1863, VI.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Jan. 25	Comet	8.1	21.6	35.5	6 55 21.73	5 35.511			Corr. Chron. — 0 34.11
	Oeltzen 23385	. .	10.7	24.5	56 10.45	2 30.199	—0 48.72	— 48.182	α δ h. m. s. ° ′ ″
F.	Comet	22.7	36.8	50.1	7 0 36.53	5 34.358			Oeltzen N. 23385, 22 0 58.42 +52 57 57.78
	Oeltzen 23385	. .	23.2	36.3	1 23.16	2 30.811	0 46.63	46.417	Comet—Oeltzen N. 23385,
	Comet	20.9	34.3	48.3	2 34.50	5 33.800			Δ α Δ δ
	Oeltzen 23385	. .	19.2	31.8	3 18.70	2 30.732	0 44.20	45.938	h. m. s. m. s. ′ ″ Sid. T. 7 4 4.34 — 0 40.37 —11 44.85
	Comet	27.3	41.2	55.3	4 41.26	5 33.339			Δ t — .11 . .
	Oeltzen 23385	. .	21.8	35.3	5 21.56	2 30.609	0 40.30	45.600	Δ ρ + .02 — .24
	Comet	27.2	41.0	54.8	6 41.00	5 32.890			p + 3.17 + 10.32
	Oeltzen 23385	. .	18.4	32.3	7 18.45	2 30.542	0 37.45	45.218	
	Comet	26.2	40.3	54.2	9 40.23	5 32.881			
	Oeltzen 23385	. .	14.1	28.0	10 14.03	2 30.501	0 33.80	45.250	
	Comet	49.2	3.7	18.7	14 3.87	5 32.449			
	Oeltzen 23385	. .	. .	50.2	7 14 35.37	2 30.222	—0 31.50	— 45.097	
Jan. 26	Comet	43.2	4.2	25.3	2 58 4.23	3 35.709			m. s. Corr. Chron. — 2 20.43
	Oeltzen 24533	30.7	. .	11.6	58 51.15	4 40.616	—0 46.92	+ 17.984	α δ h. m. s. ° ′ ″
H.	Comet	7.4	29.0	. .	3 1 28.83	3 35.497			Oeltzen N. 24533, 22 36 2.83 +53 40 51.45
	Oeltzen 24533	. .	10.2	31.3	2 10.30	4 40.652	0 41.47	18.232	Comet—Oeltzen N. 24533,
	Comet	9.5	30.4	51.5	4 30.47	3 35.306			Δ α Δ δ
	Oeltzen 24533	. .	6.6	27.7	5 6.70	4 40.423	0 36.23	18.194	h. m. s. m. s. ′ ″ Sid. T. 3 35.51.63 + 0 18.16 + 5 41 69
	Comet	24.0	45.5	6.2	6 45.23	3 34.690			Δ ρ — .01 + .08
	Oeltzen 24533	. .	17.9	38.5	7 17.83	4 40.580	0 32.60	18.967	p + 3.39 + 8.18
	Comet	52.3	14.0	35.0	8 13.77	3 34.514			
	Oeltzen 24533	. .	42.3	3.0	9 42.27	4 40.444	0 28.50	19.007	
	Comet	14.4	35.2	56.8	11 35.47	3 34.158			
	Oeltzen 24533	. .	0.2	21.3	12 0.30	4 40.526	—0 24.83	19.445	
	Oeltzen 24533	5.9	20.0	34.1	52 20.00	4 37.813			
	Comet	48.1	2.0	16.6	53 2.23	2 39.814	+0 42.23	23.861	
	Oeltzen 24533	4.9	18.3	32.8	55 18.67	4 37.762			
	Comet	51.2	5.5	20.0	56 5.57	2 39.379	0 46.90	24.245	
	Oeltzen 24533	31.4	45.5	59.3	57 45.40	4 37.819			
	Comet	22.1	36.2	51.0	3 58 36.43	2 39.175	0 51.03	24.506	
	Oeltzen 24533	2.6	16.5	30.8	4 0 16.63	4 37.675			
	Comet	57.2	11.9	26.1	1 11.73	2 38.650	0 55.10	24.887	
	Oeltzen 21533	59.9	13.8	28.0	3 13.90	4 37.592			
	Comet	59.9	14.0	. .	4 14.03	2 38.142	1 0.13	25.312	
	Oeltzen 24533	31.6	45.2	. .	5 45.40	4 37.538			
	Comet	35.4	49.4	. .	6 49.47	2 37.918	1 4.07	25.482	
	Oeltzen 24533	8.7	22.3	36.6	9 22.53	4 37.374			
	Comet	18.1	32.7	. .	10 32.57	2 37.545	1 10.04	25.691	
	Oeltzen 24533	9.6	23.3	37.7	12 23.53	4 37.374			
	Comet	24.2	39.0	. .	4 13 38.80	2 37.164	+1 15.27	+ 26.072	
Jan. 27	Comet	28.4 35.4	. . 49.9	11.1 4.6	3 15 49.88	5 47.501			
F.	Radcliffe 6067	52.4 59.5	. . 13.4	34.4 27.8	17 13.50	1 42.000	—1 23.62	— 65.502	
	Comet	0.9 7.8	. . 22.2	43.8 36.8	20 22.30	5 47.750			
	Radcliffe 6067	. . . .	. . 37.6	58.8 51.9	21 37.47	1 41.881	1 15.17	65.870	
	Radcliffe 6081	27.4 33.9	. . 48.1	9.2 2.5	3 23 48.22	4 50.882	—3 25.92	— 13.876	(Continued.)

COMET, 1863, VI.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.	
		A.	B.	C.	Mean.	.	Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 27	Comet . . .	15.8	. .	58.6	3 26 37.28	4 48.283		
		22.6	37.2	52.2				
F.	Radcliffe 6081 .	31.1	. .	13.1	29 51.94	3 47.210	—3 14.66	— 14.150
		37.6	51.8	6.1				
	Comet . . .	6.7	. .	49.6	33 28.16	4 48.511		
		13.4	28.0	43.1				
	Radcliffe 6081 .	9.4	. .	51.0	36 30.10	3 47.300	3 1.94	14.288
		16.0	29.9	44.2				
	Comet . . .	51.4	. .	34.1	38 12.66	4 48.562		
		58.3	12.2	27.3				
	Radcliffe 6081 .	45.5	. .	27.1	41 6.16	3 47.185	2 53.50	14.454
		51.9	5.9	20.4				
	Comet . . .	23.5	. .	6.9	58 45.02	4 49.177		
		30.5	44.7	59.5				
	Radcliffe 6081 .	40.5	. .	21.5	4 1 0.86	3 46.890	2 15.84	15.364
		46.8	0.6	14.9				
	Comet . . .	15.6	. .	57.9	2 36.84	4 48.975		
		22.4	36.8	51.5				
	Radcliffe 6081 .	. .	. .	6.6	4 45.33	3 46.834	2 8.49	15.218
		. .	45.5	59.7				
	Comet . . .	4.8	. .	47.9	6 26.36	4 49.081		
		12.0	26.2	40.9				
	Radcliffe 6031 .	. .	. .	48.9	8 27.63	3 46.697	2 1.27	15.461
		13.5	27.8	41.9				
	Comet . . .	29.0	. .	11.4	10 50.30	4 49.291		
		35.7	50.5	4.9				
	Radcliffe 6081 .	23.5	. .	5.1	12 44.18	3 46.659	1 53.88	15.709
		29.8	44.0	58.5				
	Comet . . .	51.1	. .	33.9	14 12.36	4 49.359		
		57.7	12.4	26.7				
	Radcliffe 6081 .	39.2	. .	20.7	15 59.80	3 46.640	1 47.44	15.796
		45.5	59.7	13.9				
	Comet . . .	16.2	. .	59.0	17 37.94	4 49.521		
		23.0	37.4	53.1				
	Radcliffe 6081 .	57.8	. .	39.6	19 18.54	3 46.659	1 40.60	15.939
		4.4	18.3	32.6				
	Comet . . .	33.9	. .	16.7	21 55.20	4 49.595		
		40.6	55.2	9.6				
	Radcliffe 6081 .	. .	. .	49.1	23 28.18	3 46.575	1 32.98	16.097
		14.3	28.3	42.3				
	Comet . . .	26.2	. .	9.1	24 47.58	4 49.555		
		33.1	47.5	2.0				
	Radcliffe 6081 .	. .	. .	36.4	26 15.16	3 46.485	1 27.58	16.147
		1.0	15.2	29.4				
	Comet . . .	33.5	. .	16.1	28 54.76	4 49.650		
		40.4	54.4	9.4				
	Radcliffe 6081 .	54.4	. .	35.9	30 14.92	3 46.317	1 20.16	16.410
		0.6	14.7	29.0				
	Comet . . .	3.6	. .	46.1	33 25.10	4 49.861		
		11.1	25.2	39.5				
	Radcliffe 6081 .	. .	. .	57.8	4 34 36.72	3 46.391	—1 11.62	— 16.547
		22.7	36.8	51.1				
Jan. 28	Oeltzen 26423 . .	14.0	27.3	41.3	3 26 27.53	1 36.998	+2 24.94	+ 67.367
	Comet	38.2	52.4	6.8	28 52.47	5 44.364		
H.	Oeltzen 26423 . .	35.9	49.6	3.0	30 49.50	1 37.120	2 33.67	66.221
	Comet	8.9	23.0	37.6	33 23.17	5 43.340		
	Oeltzen 26423 . .	24.4	38.2	51.8	35 38.13	1 37.106	+2 43.00	+ 65.256
	Comet	6.9	21.2	35.3	3 38 21.13	5 42.361		

RESULTS.				
				m. s.
		Corr. Chron.		+ 2 14.10
			α	δ
			h. m. s.	° ′ ″
Radcliffe 6067,			23 18 40.52	+54 20 36.70
Radcliffe 6081,			23 20 50.63	+54 7 18.46
Comet—Radcliffe 6067,				
			Δ α	Δ δ
	h. m. s.		m. s.	′ ″
Sid. T.	3 15 51 99		— 1 19.39	—16 47.44
		Δ ρ	+ .04	— .18
		p	+ 3.23	+ 2.01
Comet—Radcliffe 6081,				
	h. m. s.			
Sid. T.	4 0 29.60		— 2 1.13	— 3 56.08
		Δ ρ	+ .01	— .07
		p	+ 3.53	+ 6.57

(Continued.)

COMET, 1863, VI.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.	
		A.	B.	C.	Mean.		Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Jan. 28	Oeltzen 26423 . .	51.9	6.0	19.5	3 40 5.80	1 37.175	+2 51.90	+ 64.055
	Comet	43.2	58.0	11.9	42 57.70	5 41.229		
H.	Oeltzen 26423 . .	6.0	19.6	33.4	45 19.67	1 37.111	3 2.33	62.966
	Comet	7.8	22.0	36.2	48 22.00	5 40.076		
	Oeltzen 26423 . .	16.9	30.7	44.3	50 30.63	1 37.222	3 12.74	61.669
	Comet	29.1	43.4	57.6	53 43.37	5 38.890		
	Oeltzen 26423 . .	1.8	15.7	29.2	55 15.57	1 37.289	3 22.40	60.614
	Comet	23.6	38.0	52.3	3 58 37.97	5 37.902		
	Oeltzen 26423 . .	5.3	19.1	32.9	4 0 19.10	1 37.389	+3 32.53	+ 59.432
	Comet	37.3	51.7	5.9	3 51.63	5 36.820		
Feb. 3	Comet . . .	14.5 19.0	. . 28.3	42.4 37.6	6 5 28.36	2 43.612		
F.	(* 9.1) . . .	. . . .	. . . .	27.2 22.8	6 13.36	1 48.525	—0 45.00	— 11.218
	Comet . . .	27.8 32.6	. . 41.5	56.0 51.3	9 41.84	4 43.085		
	(* 9.1) . . .	9.9 14.3	. . 23.6	37.6 32.7	10 23.62	3 40.939		
	B. Z. 398, 17 .	57.8 2.3	. . 11.3	25.5 21.0	12 11.58	1 35.530	2 29.74	50.548
	Comet . . .	26.7 31.3	. . 40.6	55.0 50.3	14 40.78	4 46.819		
	(* 9.1) . . .	4.9 9.3	. . 18.6	32.4 27.7	15 18.58	3 40.728		
	B. Z. 398, 17 .	. . 56.9	. . 6 4	20.4 15.9	17 6.40	1 35.429	2 25.62	54.383
	Comet . . .	18.8 22.8	. . 32.3	46.4 41.5	19 32.36	5 33.451		
	B. Z. 398, 17 .	40.2 44.8	. . 54.2	7.9 3.5	21 54.12	1 35.331	2 21.76	58.121
	Comet . . .	19.3 24.2	. . 33.5	47.6 42.9	23 33.50	5 36.572		
	B. Z. 398, 17 .	38.4 42.8	. . 52.1	6.0 1 6	25 52.18	1 35.362	2 18.68	61.211
	Comet . . .	0.1 5.0	. . 14.2	28.1 23.7	27 14.22	5 39.302		
	B. Z. 398, 17 .	16.0 20.4	. . 29.9	43.8 39.4	29 29.90	1 35.292	2. 15.68	64.011
	Comet . . .	40.6 44.7	. . 54.2	8.6 3.6	30 54.34	5 42.015		
	B. Z. 398, 17 .	53.3 57.8	. . 7.1	20.8 16.5	33 7.10	1 35.360	2 12.76	66.656
	Comet . . .	27.0 31.6	. . 41.1	55.2 50.3	34 41.04	5 39.040		
	B. Z. 398, 17 .	36.9 41.4	. . 50.6	4.5 0.1	36 50.70	1 29.198	2 9.66	69.843
	Comet . . .	16.4 21.1	. . 30.5	44.5 39.9	38 30.48	5 42.355		
	B. Z. 398, 17 .	23.1 27.4	. . 36.9	51.1 46.3	6 40 36.96	1 29.540	—2 6.48	72.816
Feb. 5	Comet . . .	34.2 38.1	. . 46.9	59.7 55.7	5 57 46.92	3 47.269		
	Tauri ω^2 . . .	46.2 50.7	. . 59.7	12.5 8.3	5 57 59.48	2 48.443	—0 12.56	11.611
F.	Comet . . .	58.5 2.7	. . 11.2	24.3 19.5	6 0 11.24	3 48.735		
	Tauri ω^2 . . .	13.7	22.9	. .	6 0 22.59	2 48.561	—0 11.35	— 12.959

RESULTS.

m. s.
Corr. Chron. — 2 10.56
α δ
h. m. s. ° ′ ″
Oeltzen N. 26423, 0 1 1.44 +53 2 46.42

Comet—Oeltzen N. 26423,
Δ α Δ δ
h. m. s. m. s. ′ ″
Sid. T. 3 43 50.62 + 2 57.94 +16 13.10
Δ ρ — .03 + 0.27
p + 3.16 + 0.63

m. s.
Corr. Chron. — 2 1.34
α δ
h. m. s. ° ′ ″
B. Z. 398, 17, 3 39 19.43 +28 58 12.26

Comet—B. Z. 398, 17,
Δ α Δ δ
h. m. s. m. s. ′ ″
Sid. T. 6 22 49.73 — 2 17.55 —15 53.96
Δ ρ .00 — .29
p + 1.64 + 11.21

(Continued.)

COMET, 1863, VI.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1863.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Feb. 5	Comet . . .	19.2 22.8	. . 31.5	45.1 40.8	6 3 31.88	3 50.710			m. s. Corr. Chron. — 1 58 30
F.	Tauri ω^2 . . .	. . 32.7	. . 41.6	54.1 49.7	3 41.36	2 48.515	—0 9.48	— 14.980	α δ h. m. s. ° ′ ″ Tauri ω^2, 4 9 19.70 +20 14 28 29
	Comet . . .	41.1 45.2	. . 53.8	7.1 2.5	5 53.94	3 53.551			Comet—Tauri ω^2,
	Tauri ω^2 . . .	48.9 53.8	. . . .	14.8 10.6	6 2.02	2 48.431	0 8.08	17.905	Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 6 2 11.97 — 0 9.04 — 4 11.42
	Comet . . .	15.1 19.2	. . 27.8	40.5 36.6	7 27.84	3 55.352			Δ ρ .00 — .06 p + 0.97 + 12.95
	Tauri ω . . .	22.1 . .	. . . .	47.9 43.7	7 35.01	2 48.431	0 7.17	19.706	
	Comet . . .	57.1 1.1	. . 9.6	22.7 18.8	10 9.86	3 56.940			
	Tauri ω^2 . . .	2.7 6.8	. . 15.5	28.1 24.3	6 10 15.48	2 48.529	—0 5.62	21.196	
Feb. 8	Comet . . .	46.1 50.2	. . 58.4	10.2 6.8	5 7 58.34	4 36.585			m. s. Corr. Chron. — 1 57.74
F.	(* 128) W. . .	20.3 24.5	. . 32.6	45.0 41.0	8 32.68	2 43.671	—0 34.34	18.776	α δ h. m. s. ° ′ ″ (* 128) W., 4 41 3.32 +10 43 16.09
	Comet . . .	9.7 13.6	. 21.9	35.1 30.4	12 22.14	4 38.495			Comet—(* 128) W.,
	(* 128) W. . .	42.5 46.2	. . 54.8	7.4 3.1	12 54.80	2 43.612	0 32.66	20.745	Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 5 27 55.19 — 0 26.53 — 7 4.01
	Comet . . .	30.4 34.5	. . 42.8	55.2 50.9	15 42.76	4 39.843			Δ ρ . . . — .16 p + 0.33 + 14.34
	(* 128) W. . .	1.9 5.8	. . 14.2	26.6 22.6	16 14.22	2 43.660	0 31.46	22.045	
	Comet . . .	24.4 28.5	. . 36.7	48.7 45.2	19 36.70	4 41.621			
	(* 128) W. . .	54.3 58.2	. . 6.4	18.7 15.0	20 6.52	2 43.591	0 29.82	23.892	
	Comet . . .	53.8 57.8	. . 6.1	18.6 14.7	24 6.20	4 42.542			
	(* 128) W, . .	. . 26.3	. . 34.8	47.1 43.3	24 34.76	2 43.629	0 28.56	24.775	
	Comet . . .	28.6 32.3	. . 40.6	53.4 49.3	26 40.84	4 43.625			
	(* 128) W. . .	56.1 0.0	. . 8.6	20.9 17.0	27 8.52	2 43.520	0 27.68	25.967	
	Comet . . .	42.1 45.9	. . 54.5	7.0 3.1	28 54.52	4 44.559			
	(* 128) W. . .	. 12.6	. . 21.3	33.7 29.6	29 21.19	2 43.581	0 26.67	26.840	
	Comet . . .	39.0 43.2	. . 51.4	3.9 59.6	31 51.42	4 45.920			
	(* 128) W. . .	. . 8.6	. . 17.1	29.4 25.4	32 17.02	2 43.590	0 25.60	28.192	
	Comet . . .	7.7 12.0	. . 20.2	32.4 28.7	34 20.20	4 46.753			
	(* 128) W. . .	. . 36.7	. . 45.1	57.3 53.1	34 44.92	2 43.671	0 24.72	28.944	
	Comet . . .	53.2 56.9	. . 4.8	17.7 13.6	37 5.04	4 47.960			
	(* 128) W. . .	. . 21.0	. . 29.5	41.8 37.7	37 29.24	2 43.556	0 24.20	30.266	
	Comet . . .	31.0 35.1	. . 43.3	56.2 51.6	40 43.44	4 49.137			
	(* 128) W. . .	. . 57.9	. . 6.5	18.8 14.7	5 41 6.36	2 43.700	—0 22.92	— 31.299	

COMET, 1863, VI.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ a	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Feb. 8	Comet . . .	53.9	. .	18.8	5 43 6.26	4 51.650			
		57.9	6.3	14.4					
	(* 128) W. . .	. .	. .	40.7	43 28.38	2 43.729	—0 22.12	— 33.783	
		20.0	28.4	36.8					
F.									
	Comet- . . .	27.2	. .	51.8	46 39.48	5 36.149			
		31.3	39.3	47.8					
	(* 128) W. . .	. .	. .	12.6	47 0.35	2 43.729	0 20.87	35.290	
		. .	0.3	8.6					
	Comet . . .	1.7	. .	26.3	49 13.76	5 37.122			
		5.3	13.7	21.8					
	(* 128) W. . .	. .	. .	45 8	5 49 33.53	2 43.768	—0 19.77	— 36.224	
		. .	33.4	41.9					
Feb. 9	Weisse IV, 1028 .	36.1	44.4	53.0	5 14 44.50	1 45.050	+0 42.20	— 51.859	m. s Corr. Chron. + 1 56.93
H.	Comet	18.4	26.7	35.0	15 26.70	4 53.916			a δ h. m. s. ° ′ ″
	Weisse IV, 1028 .	31.4	39.8	48.2	17 39.80	1 45.302	0 43.10	51.977	Weisse IV, 1028, 4 47 34.65 + 8 22 28.75
	Comet	14.4	23.0	31.3	18 22.90	4 54.286			Comet—Weisse IV, 1028,
	Weisse IV, 1028 .	42.5	50.7	59.0	19 50.73	1 45.276	0 43.50	52.910	Δ a Δ δ
	Comet	26.0	34.3	42.4	20 34.23	4 55.193			h. m. s. m. s. ′ ″ Sid. T. 5 34 5.87 + 0 48.08 —15 2.30
	Weisse IV, 1028 .	44.7	53.0	1.8	24 53.17	1 45.460	0 44.80	54.343	Δ ρ .00 — 0.35
	Comet	29.7	37.9	46.3	25 37.97	4 56.810			p + 0.23 + 14.43
	Weisse IV, 1028 .	20.0	28.6	37.0	27 28.53	1 45.502	0 45.67	55.942	
	Comet	6.0	14.2	22.4	28 14.20	5 41.443			
	Weisse IV, 1028 .	31.9	40.1	48.4	29 40.13	1 45.473	0 46.44	56.908	
	Comet	18.1	26.8	34.8	30 26.57	5 42.380			
	Weisse IV, 1028 .	41.3	49.6	58.2	33 49.70	1 45.494	0 48.13	58.383	
	Comet	29.6	37.7	46.2	34 37.83	5 43.876			
	Weisse IV, 1028 .	50.7	59.0	7.3	35 59.00	1 45.670	0 48.17	59.115	
	Comet	39.0	47.1	55.4	36 47.17	5 44.784			
	Weisse IV, 1028 .	38.8	45.1	53.4	38 45.10	1 45.543	0 48.97	60.068	
	Comet	25.8	34.1	42.3	39 34.07	5 45.610			
	Weisse IV, 1028 .	50.1	58.4	6.9	41 58.47	1 45.784	0 50.00	61.070	
	Comet	40.1	48.3	57.0	42 48.47	5 46.853			
	Weisse IV, 1028 .	58.9	7.2	15.8	48 7.30	1 39.785	0 51.87	63.834	
	Comet	50.8	59.1	7.6	48 59.17	5 43.618			
	Weisse IV, 1028 .	56.0	4.6	13.0	51 4.53	1 39.893	0 52.67	64.737	
	Comet	49.1	57.0	5.5	51 57.20	5 44.629			
	Weisse IV, 1028 .	21.1	29.1	38.0	53 29.40	1 39.870	0 53.37	65.718	
	Comet	14.3	22.8	31.2	54 22.77	5 45.587			
	Weisse IV, 1028 .	47.4	55.7	4.0	55 55.70	1 39.870	+0 54.27	— 66.754	
	Comet	41.9	50.1	57.9	5 56 49.97	5 46.623			
Feb. 10	(* 8)	27.8	. .	51.6	4 56 39.50	5 36.879			m. s. Corr. Chron. — 1 56.45
F.		31.4	39.2	47.5					a δ
	(* 129) W. . .	. .	. .	. .	57 3.67	4 38.349	+0 5.45	+ 20.416	h. m. s. ° ′
		55.2	3.5	12.3					(* 129) W., 4 5 52.5 + 5 55
	Comet . . .	57.0	. .	21.1	4 57 9.12	2 43.795			
		1.0	8.9	17.6					Comet—(* 129) W.,
	(* 8)	4.5	. .	28.7	5 0 16.70	5 37.185			Δ a Δ δ h. m. s. m. s. ′ ″
		8.7	16.6	25.0					Sid. T. 6 15 6.35 + 0 10.94 + 3 38.33
	(* 129) W. . .	29.2	. .	52.6	0 40.62	4 38.448	+0 6.43	+ 19.353	Δ ρ .00 + .08
		32.5	40.6	48.2					p + 0.12 + 14.32
	Comet . . .	34.6	. .	59.0	0 47.05	3 32.172			
		38.8	. .	55.8					
	(* 9)	8.0	. .	32.9	5 1 20.54	3 36.303			
		12.0	20.6	29.2					

COMET, 1863, VI.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ a	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Feb. 10	(* 129) W.	48.3	56.2	4.6	5 6 56.37	4 38.644	+0 8.49	— 17.792	
	Comet	56.9	4.9	12.8	7 4.86	3 33.929			
F.	(* 129) W.	8.5	17.2	25.2	8 16.97	4 38.621	0 8.70	16.488	
	Comet	. .	. .	33.9	8 25.67	2 47.995			
	(* 129) W.	20.7	28.9	37.5	11 29.03	4 38.622	0 9.77	16.069	
	Comet	30.3	38.9	47.2	11 38.80	3 35.630			
	(* 129) W.	6.7	14.9	22.8	14 14.80	4 38.642	0 9.90	15.094	
	Comet	16.5	24.7	32.9	14 24.70	3 36.625			
	(* 129) W.	20.6	29.2	37.4	16 29.07	4 38.835	0 10.73	14.514	
	Comet	31.6	39.9	47.9	16 39.80	3 37.398			
	(* 129) W.	2.2	10.5	18.8	19 10.50	4 38.740	0 11.57	13.436	
	Comet	13.9	21.9	30.4	19 22.07	3 38.381			
	(* 129) W.	57.1	59.3	7.4	20 59.27	4 38.964	0 12.06	13.279	
	Comet	2.8	11.4	19.8	21 11.33	3 38.762			
	(* 129) W.	53.4	1.8	9.8	23 1.67	4 38.641	0 12.76	12.055	
	Comet	6.4	14.2	22.7	23 14.43	3 39.663			
	(* 129) W.	34.4	42.6	51.2	25 42.73	4 38.760	0 13.44	11.288	
	Comet	48.0	56.2	4.3	25 56.17	3 40.549			
	(* 129) W.	44.6	52.9	1.2	27 52.90	4 38.929	0 13.87	10.896	
	Comet	58.6	6.9	14.8	28 6.77	3 41.110			
	(* 129) W.	58.8	7.0	15.2	31 7.00	4 38.895	0 14.57	9.560	
	Comet	13.4	21.1	30.2	31 21.57	3 42.412			
	(* 129) W.	53.4	1.6	9.6	33 1.53	4 38.891	+0 15.37	+ 9.058	
	Comet	8.4	16.8	25.5	5 33 16.90	3 42.910			
Feb. 11	Comet	51.9	0.6	8.5	5 25 0.33	4 31.643			m. s.
H.	Weisse V, 55 . .	23.0	31.1	39.6	28 31.23	1 35.930	—3 30.90	— 38.706	Corr. Chron. — 1 54.81
	Comet	47.0	55.8	3.4	29 55.40	4 33.060			α δ h. m. s. ° ′ ″
	Weisse V, 55 . .	17.0	25.3	33.7	33 25.33	1 36.056	3 29.93	39.997	Weisse V, 55, 5 4 34.76 + 4 14 12.26
	Comet	55.7	4.0	12.1	35 3.93	4 34.620			Comet—Weisse V, 55,
	Weisse V, 55 . .	24.2	32.5	41.0	38 32.57	1 35.932	3 28.64	41.681	Δ a Δ δ h. m. s. m. s. ′ ″
	Comet	6.7	15.0	23.4	40 15.03	4 35.981			Sid. T. 5 47 1.95 — 3 25.61 —11 39.81
	Weisse V, 55 . .	34.4	42.2	51.0	43 42.53	1 36.078	3 27.50	42.896	Δ ρ .00 — 0.25 p + .25 + 14.52
	Comet	23.3	31.6	39.7	45 31.53	4 37.405			
	Weisse V, 55 . .	49.9	58.2	6.5	48 58.20	1 35.956	3 26.67	44.442	
	Comet	58.5	7.4	15.2	51 7.03	4 39.124			
	Weisse V, 55 . .	24.0	32.3	40.8	54 32.37	1 35.904	3 25.34	46.213	
	Comet	59.2	7.7	16.1	5 58 7.67	4 41.130			
	Weisse V, 55 . .	23.1	31.2	39.8	6 1 31.37	1 36.072	3 23.70	48.051	
	Comet	42.4	50.5	59.0	2 50.63	4 42.438			
	Weisse V, 55 . .	4.7	12.7	21.4	6 12.93	1 36.041	3 22.30	49.390	
	Comet	3.3	11.5	20.0	8 11.60	4 44.354			
	Weisse V, 55 . .	24.3	32.9	41.2	11 32.80	1 36.007	3 21.20	51.340	
	Comet	16.3	24.2	33.0	13 24.50	4 46.803			
	Weisse V, 55 . .	36.2	44.4	52.7	6 16 44.43	1 36.230	—3 19.93	— 53.566	
Feb. 12	(* 130) W. . . .	18.9	. .	43.8	8 7 30.94	2 29.571	+0 13 48	+ 1.411	
		22.3	30.7	39.0					
H.	Comet . . .	32.4	. .	56.6	8 7 44.42	2 28.160			
		36.1	44.2	52.8					

(Continued.)

COMET, 1863, VI.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Feb. 12	(* 130) W. . .	25.4	. .	49.2	8 9 37.18	2 29.600	+0 14.08	+ 1.113	Corr. Chron. — 1 53.19
		28.9	37.0	45.4					α δ
F.	Comet . . .	39.0	. .	4.2	9 51.26	2 28.487			h. m. s. ° ′ ″
		42.5	51.2	59.4					(* 130) W., 5 6 43.75 + 2 10 58.17
	(* 130) W. . .	28.9	. .	3.2	11 51.00	2 29.417	0 14.58	+ 0.454	Comet—(* 130) W.,
		42.8	50.8	59.3					Δα Δδ
	Comet . . .	53.6	. .	17.5	12 5.58	2 28.963			h. m. s. m. s. ′ ″
		57.5	5.5	13.8					Sid. T. 8 13 16.60 + 0 14.85 — 0 5.03
	(* 130) W. . .	28.9	. .	. .	14 41.10	2 29.298	0 14.70	— 0.352	Δρ .00 .00
		32.6	40.8	49.9					p + 0.88 + 17.26
	Comet . . .	43.9	. .	8.1	14 55.80	2 29.650			
		. .	55.7	4.1					
	(* 130) W. . .	56.3	. .	20.3	18 8.20	2 29.349	0 15.32	1.001	
		59.8	8.2	16.4					
	Comet . . .	. .	. .	35.5	18 23.52	2 30.350			
		14.9	23.8	31.8					
	(* 130) W. . .	51.2	. .	15.4	20 3.14	2 29.229	0 16.16	1.810	
		54.9	2.9	11.3					
	Comet . . .	6.9	. .	31.4	20 19.30	2 31.039			
		11.3	19.3	27.6					
	(* 130) W. . .	21.1	. .	44.7	22 33.00	2 29.228	+0 15.64	— 2.112	
		24.9	32.9	41.4					
	Comet . . .	. .	. .	. .	8 22 48.64	2 31.340			
		40.6	48.6	. .					
Feb. 13	Comet	12.0	20.2	28.5	4 42 20.23	3 37.930			m. s. Corr. Chron. — 1 50.03
	(* 131) W. . . .	36.2	44.8	52.8	43 44.60	3 30.344	—1 24.37	— 7.586	α δ
H.									h. m. s. ° ′ ″
	Comet . . .	17.0	25.2	33.2	45 25.13	3 38.283			(* 131) W., 5 12 26.93 + 0 58 29.00
	(* 131) W. . . .	40.6	48.9	57.1	46 48.87	3 30.294	1 23.74	7.989	
	Comet	46.0	54.2	2.0	47 54.07	3 39.153			Comet—(* 131) W., Δα Δδ
	(* 131) W. . . .	9.3	17.4	25.8	49 17.50	3 30.600	1 23.43	8.553	h. m. s. m. s. ′ ″ Sid. T. 4 50 2.93 — 1 22.64 — 2 26.24
	Comet	12.0	20.3	28.5	50 20.27	3 39.754			Δρ .00 — .06
	(* 131) W. . . .	34.9	43.2	51.2	51 43.10	3 30.584	1 22.83	9.170	p — .10 + 13.54
	Comet	9.5	18.4	26.9	53 18.27	3 40.512			
	(* 131) W. . . .	32.6	40.6	49.2	54 40.80	3 30.553	1 22.53	9.959	
	Comet	42.5	50.6	59.0	55 50.70	3 40.980			
	(* 131) W. . . .	4.4	12.7	21.3	57 12.80	3 30.770	1 22.10	10.210	
	Comet	18.3	26.7	35.0	58 26.67	3 41.860			
	(* 131) W. . . .	39.8	48.1	56.2	4 59 48.03	3 30.753	1 21.36	11.107	
	Comet	20.0	28.4	36.7	5 1 28.37	3 42.360			
	(* 131) W. . . .	40.8	49.1	57.4	5 2 49.10	3 30.653	—1 20.73	— 11.707	

CONCORDIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Mar. 9	Concordia . . .	9.9	19.2	27.6	9 7 18.90	4 37.000	— 0 3.45	+ 16.370	Corr. Chron. — 1 1.04
	2. Weisse VIII, 490	. .	22.3	31.4	7 22.35	5 36.362			α δ h. m. s. ° ′ ″
F.	Concordia* . . .	. .	18.6	. .	11 18.6	4 36.820	0 5.2	+ 16.608	2. Weisse VIII, 490, 8 21 51.13 +16 39 19.25
	2. Weisse VIII, 490	. .	23.8	. .	11 23.8	5 36.420			Concordia—2. Weisse VIII, 490,
	Concordia . . .	. .	57.6	. .	15 57.6	. . .	0 3.8		Δ α Δ δ
	2. Weisse VIII, 490	. .	1.4	. .	16 1.4				h. m. s. m. s. ′ ″ Sid. T. 9 13 7.36 — 0 3.71 + 4 12.90
	Concordia . . .	. .	31.5	. .	16 31.5	. . .	0 2.5		Δ ρ .00 + .08
	2. Weisse VIII, 490	. .	34.0	. .	16 34.0				p + .06 + 1.92
	Concordia . . .	. .	42.0	. .	16 42.0	. . .	0 3.4		
	2. Weisse VIII, 490	. .	45.4	. .	16 45.4				
	Concordia . .	. .	1.8	. .	17 1.8	. . .	— 0 3.9		
	2. Weisse VIII, 490	. .	5.7	. .	9 17 5.7				

* The planet would bear scarce any illumination. The observation is consequently uncertain.

PHOCÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s,	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1864. Apr. 7	Phocæa	57.9	6.5	15.0	11 25 6.47	2 43.464			Corr. Chron. — 0 13.71
H.	Oeltzen S. 12629 .	12.4	21.1	29.7	25 21.07	4 36.584	—0 14.60	+ 18.982	α δ h. m. s. ° ′ ″
	Phocæa	3.3	11.9	20.2	27 11.80	2 43.372			Oeltzen S. 12629, 12 57 52.65 —16 56 54.59
	Oeltzen S. 12629 .	18.0	26.4	35.1	27 26.50	4 36.580	0 14.70	19.070	Phocæa—Oeltzen S. 12629,
	Phocæa	8.0	16.6	25.3	29 16.63	2 43.297			Δ α Δ δ h. m. s. m. s. ′ ″
	Oeltzen S. 12629 .	. .	31.3	40.0	29 31.33	4 36.588	0 14.70	19.153	Sid. T. 11 47 6.86 — 0 15.43 + 5 5.16
	Phocæa	50.0	58.6	7.0	33 58.53	2 43.259			Δ ρ .00 + .29
	Oeltzen S. 12629 .	4.7	13.3	22.2	34 13.40	4 36.685	0 14.87	19.288	p — .10 + 4.86
	Phocæa	14.0	22.4	31.0	38 22.47	2 43.150			
	Oeltzen S. 12629 .	29.1	37.7	46.3	38 37.70	4 36.764	0 15.23	19.476	
	Phocæa	2.4	11.1	20.0	40 11.17	2 43.020			
	Oeltzen S. 12629 .	17.7	26.5	35.1	40 26.43	4 36.744	0 15.26	19.586	
	Phocæa	51.6	0.2	8.8	41 0.20	2 43.088			
	Oeltzen S. 12629 .	6.7	15.3	. .	41 15.30	4 36.915	0 15.13	19.689	
	Phocæa	37.1	45.6	54.2	43 45.63	2 43.089			
	Oeltzen S. 12629 .	52.2	0.9	9.6	44 0.90	4 36.940	0 15.27	19.713	
	Phocæa	20.1	28.8	37.3	45 28.73	2 43.038			
	Oeltzen S. 12629	35.3	44.0	52.8	45 44.03	4 37.039	0 15.30	19.863	
	Phocæa	16.6	25.2	33.8	47 25.20	2 43.042			
	Oeltzen S. 12629 .	31.9	40.4	49.1	47 40.47	4 36.981	0 15.27	19.801	
	Phocæa	55.5	4.3	12.7	49 4.17	2 43.007			
	Oeltzen S. 12629 .	11.0	19.7	28.4	49 19.70	4 36.940	0 15.53	19.794	
	Phocæa	51.1	59.6	. .	53 59.75	2 42.900			
	Oeltzen S. 12629 .	6.4	15.2	24.0	54 15.20	4 37.186	0 15.45	20.148	
	Phocæa	30.7	39.4	. .	55 39.33	2 42.837			
	Oeltzen S. 12629 .	46.7	55.2	3.8	55 55.23	4 37.385	0 15.90	20.410	
	Phocæa	59.8	8.5	. .	57 8.57	2 42.826			
	Oeltzen S. 12629 .	15.3	24.2	33.0	57 24.17	4 37.340	0 15.60	20.376	
	Phocæa	49.2	57.9	. .	58 57.93	2 42.832			
	Oeltzen S. 12629 .	5.2	14.0	22.6	11 59 13.93	4 37.449	0 16.00	20.479	
	Phocæa	37.3	46.2	. .	12 0 46.13	2 42.786			
	Oeltzen S. 12629 .	53.3	2.2	10.9	1 2.13	4 37.406	0 16.00	20.482	
	Phocæa	13.2	21.8	. .	2 21.80	2 42.740			
	Oeltzen S. 12629 .	29.2	38.0	46.5	2 37.90	4 37.404	0 16.10	20.526	
	Phocæa	52.7	1.2	. .	4 1.32	2 42.770			
	Oeltzen S. 12629 .	8.7	17.3	26.1	4 17.37	4 37.404	0 16.05	20.496	
	Phocæa	36.6	45.0	. .	5 45.17	2 42.670			
	Oeltzen S. 12629 .	52.7	1.3	10.1	12 6 1.37	4 37.530	—0 16.20	+ 20.722	m. s.
Apr. 18	Phocæa	24.0	. .	40.8	9 54 32.40	2 34.563			Corr. Chron. — 4 6.99
F.	Weisse XII, 834 .	29.7	38.0	46.5	55 38.07	5 35.921	—1 5.67	+ 44.228	α δ h. m. s. ° ′ ″
	Phocæa	25.7	34.5	43.0	9 59 34.40	2 34.320			Weisse XII, 834, 12 49 21.15 —14 12 53.95
	Weisse XII, 834 .	. .	40.2	48.5	10 0 40.07	5 36.065	1 5.67	44.615	Phocæa—Weisse XII, 384,
	Phocæa	0.5	8.8	17.5	4 8.93	2 34.199			Δ α Δ δ h. m. s. m. s. ′ ″
	Weisse XII, 834 .	6.5	. .	23.0	10 5 14.75	5 36.139	—1 5.82	+ 44.810	M. T. 9 55 18.25 — 1 5.72 +11 23.30 Δ t — .18 . . . Δ ρ + .01 + .58 p — .14 + 4.82

PHOCÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Apr. 19	Phocæa	25.2	33.7	42.3	12 2 33.73	3 41.964			Corr. Chron. — 0 4.49
	Weisse XII, 857 .	49.0	57.3	6.0	5 57.43	1 39.104	—3 23.70	— 32.776	α δ
H.									h. m. s. ° ′ ″
	Phocæa	31.9	40.4	49.0	8 40.43	3 41.835			Weisse XII, 857, 12 50 50.87 —13 36 50.56
	Weisse XII, 857 .	55.7	4.2	12.7	12 4.20	1 39.207	3 23.77	32.544	Phocæa—Weisse XII, 857,
	Phocæa	34.8	43.2	52.0	25 43.33	3 41.490			Δ α Δ δ
	Weisse XII, 857 .	59.3	7.9	16.2	29 7.80	1 39.596	3 24.47	31.810	h. m. s. m. s. ′ ″ Sid. T. 12 36 13.59 — 3 24.79 — 8 1.19
	Phocæa	40.2	49.0	57.1	30 48.77	3 41.480			Δ ρ .00 — .36
	Weisse XII, 857 .	4.7	13.2	21.8	34 13.23	1 39.659	3 24.46	31.737	p — .02 + 4.90
	Phocæa	52.4	1.1	9.3	36 0.93	3 41.358			
	Weisse XII, 857 .	17.3	26.0	34.2	39 25.83	1 39.833	3 24.90	31.441	
	Phocæa	37.1	45.6	54.0	40 45.57	3 41.084			
	Weisse XII, 857 .	2.0	10.4	19.0	44 10.47	1 39.780	3 24.90	31.220	
	Phocæa	31.8	40.8	48.9	45 40.50	3 40.902			
	Weisse XII, 857 .	57.2	5.6	14.0	49 5.60	1 39.937	3 25.10	30.881	
	Phocæa	25.4	34.0	42.3	52 33.90	3 40.695			
	Weisse XII, 857 .	50.7	59.1	7.7	55 59.17	1 39.895	3 25.27	30.716	
	Phocæa	17.8	26.0	34.7	12 57 26.17	3 40.582			
	Weisse XII, 857 .	43.1	51.6	0.2	13 0 51.63	1 39.964	3 25.46	30.534	
	Phocæa	39.0	47.4	56.0	2 47.47	3 40.194			
	Weisse XII, 857 .	5.0	13.2	21.7	13 6 13.30	1 40.029	3 25.83	— 30.081	
Apr. 23		16.1	. .	41.1					m. s. Corr. Chron. — 0 3.19
	Phocæa	20.0	28.3	37.1	13 41 28.52				α δ
H.		17.4	. .	42.4					h. m. s. ° ′ ″
	Weisse XII, 743 .	21.4	29.7	38.6	41 29.90	. . .	0 1.38		Weisse XII, 743, 12 44 13.20 —12 44 19.08
		15.9	. .	41.1					Phocæa—Weisse XII, 743,
	Phocæa	19.9	28.2	37.1	42 28.44				Δ α Δ δ
		17.4	. .	42.5					h. m. s. m. s. ′ ″
	Weisse XII, 743 .	21.3	29.8	38.5	42 29.90	. . .	0 1.46		Sid. T. 12 55 40.18 — 0 1.88* + 5 8.21 Δ ρ .00 + .23
		57.1	. .	22.0					p + .11 + 4.79
	Phocæa	0.7	9.4	18.0	43 9.44				
		58.4	. .	23.4					
	Weisse XII, 743 .	2.2	11.0	19.5	43 10.90	. . .	0 1.46		
		43.3	. .	8.0					
	Phocæa	47.0	55.7	4.2	43 55.64				
		44.6	. .	9.5					
	Weisse XII, 743 .	48.4	57.2	5.7	43 57.08	. . .	0 1.44		
		14.1	. .	39.3					
	Phocæa	18.2	26.6	35.0	45 26.64				
		15.7	. .	40.9					
	Weisse XII, 743 .	19.7	28.3	36.9	45 28.30	. . .	0 1.66		
		2.1	. .	27.1					
	Phocæa	6.1	14.6	23.2	46 14.62				
		3.8	. .	28.7					
	Weisse XII, 743 .	7.7	16.2	24.7	46 16.22	. . .	—0 1.60		
	Phocæa	. .	. .	. .	47 29.50	4 50.576			
	Weisse XII, 743 .	. .	. .	. .	. . . . .	3 43.953	. . .	+ 19.700	
	Phocæa	. .	. .	. .	49 10.00	4 50.578			
	Weisse XII, 743 .	. .	. .	. .	. . . . .	3 43.816	. . .	19.839	
	Phocæa	. .	. .	. .	50 35.40	4 50.673			
	Weisse XII, 743 .	. .	. .	. .	. . .	3 43.874	. . .	19.876	
	Phocæa	. .	. .	. .	51 59.30	4 50.675			
	Weisse XII, 743 .	. .	. .	. .	. . . . .	3 43.776	. . .	19.976	
	Phocæa	. .	. .	. .	13 53 22.90	4 50.720			
	Weisse XII, 743 .	. .	. .	. .	. . . . .	3 43.615	. . .	+ 20.182	

* Reduced to the time of the observed Δ δ.

PHOCÆA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Apr. 23	Phocæa	. .	. .	. .	13 55 32.60	4 50.826			
H.	Weisse XII, 743 .	. .	. .	. .	. . . . .	3 43.857	. . .	+ 20.046	
	Phocæa	. .	. .	. .	56 57.40	4 51.003			
	Weisse XII, 743 .	. .	. .	. .	. . . . .	3 43.940	. . .	20.140	
	Phocæa	. .	. .	. .	58 17.40	4 50.913			
	Weisse XII, 743 .	. .	. .	. .	. . . . .	3 43.807	. . .	20.183	
	Phocæa	. .	. .	. .	13 59 40.70	4 51.017			
	Weisse XII, 743 .	. .	. .	. .	. . . . .	3 43.803	. . .	20.291	
	Phocæa . .	. .	. .	. .	14 0 41.20	4 51.098			
	Weisse XII, 743 .	. .	. .	. .	. . . . .	3 43.920	. . .	20.255	
	Phocæa	. .	. .	. .	1 51.70	4 51.000			
	Weisse XII, 743 .	. .	. .	. .	. . . . .	3 43.867	. . .	20.210	
	Phocæa	. .	. .	. .	3 2.30	4 51.223			
	Weisse XII, 743 .	. .	. .	. .	. . . . .	3 43.860	. . .	+ 20.440	
	Phocæa	30.0 33.9	. . 42.4	55.0 51.1	4 42.48				
	Weisse XII, 743 .	32.1 36.0	. . 44.7	57.1 53.2	4 44.62	. . .	—0 2.14		
	Phocæa	9.8 13.7	. . 22.2	34.8 30.7	5 22.24				
	Weisse XII, 743 .	12.0 16.0	. . 24.5	36.9 32.9	5 24.46	. . .	0 2.22		
	Phocæa	50.0 53.9	2.5	10.7	6 2.38				
	Weisse XII, 743 .	52.1 56.1	. . 4.6	17.0 13.1	6 4.58	. . .	0 2.20		
	Phocæa	29.4 33.3	. . 42.0	54.4 50.4	6 41.90				
	Weisse XII, 743 .	31.6 35.6	. . 44.0	56.5 52.6	6 44.06	. . .	0 2.16		
	Phocæa	7.0 10.7	. . 19.2	31.6 27.7	7 19.24				
	Weisse XII, 743 .	9.0 13.0	. . 21.6	34.1 30.1	7 21.56	. . .	0 2.32		
	Phocæa	45.7 49.7	. . 58.4	11.0 6.7	7 58.30				
	Weisse XII, 743 .	48.0 52.0	. . 0.6	13.1 9.0	14 8 0.54	. . .	—0 2.24		
Apr. 25	Phocæa	5.2	13.7	22.1	11 51 13.67	1 44.642			m. s. Corr. Chron. — 0 2.37
F.	Weisse XII, 728 .	29.0	37.4	45.8	51 37.40	3 50.392	—0 23.73	+ 35.666	α δ h. m. s. ° ′ ″
	Phocæa	15.8	24.0	32.4	53 24.07	1 44.580			Weisse XII, 728, 12 43 26.32 —12 17 45.88
	Weisse XII, 728 .	39.5	47.5	56.4	53 47.80	3 50.379	0 23.73	35.715	Phocæa—Weisse XII, 728,
	Phocæa	11.6	20.9	29.3	56 20.93	1 44.449			Δ α Δ δ h. m. s. m. s. ′ ″
	Weisse XII, 728 .	36.6	44.8	53.2	11 56 44.87	3 50.405	—0 23.94	+ 35.872	Sid. T. 11 53 37.19 — 0 23.80 + 9 8.32 Δρ .00 + .39 p — .07 + 4.75

EUROPA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.		m. s.	revs.	m. s.
Apr. 26	Weisse XIII, 354 .	39.2	47.5	55.7	12 43 47.47	1 48.360	+0 48.26	— 16.128	Corr. Chron. — 0 2.18
	Europa	27.7	35.6	43.9	44 35.73	2 47.357			α δ h. m. s. ° ′ ″
H.	Weisse XIII, 354 .	56.4	4.6	13.0	46 4.67	1 48.353	0 48.06	16.317	Weisse XIII, 354, 13 22 41.11 + 2 24 35.33
	Europa	44.5	52.6	1.1	46 52.73	2 47.539			Europa—Weisse XIII, 354,
	Weisse XIII, 354 .	53.2	1.5	9.8	48 1.50	1 48.480	0 48.03	16.227	Δ α Δ δ h. m. s. m. s. ′ ″
	Europa	41.2	49.4	58.0	48 49.53	2 47.576			Sid. T. 12 56 48.64 + 0 47.71 — 4 8.48
	Weisse XIII, 354 .	9.8	17.8	26.0	51 17.87	1 48.420	0 48 00	16.260	Δ ρ .00 — .13
	Europa	57.6	6.0	14.0	51 5.87	2 47.549			p — .03 + 2.32
	Weisse XIII, 354 .	24.0	32.2	40.4	52 32.20	1 48.446	0 47.87	16.285	
	Europa	12.0	19.9	28.3	53 20.07	2 47.600			
	Weisse XIII, 354 .	3.3	11.3	19.9	58 11.50	1 48.575	0 47.53	16.247	
	Europa	50.8	59.0	7.3	12 58 59.03	2 46.691			
	Weisse XIII, 354 .	56.3	4.7	13.0	13 1 4.67	1 48.711	0 47.46	16.210	
	Europa	43.9	52.0	0.5	1 52.13	2 47.790			
	Weisse XIII, 354 .	3.4	11.9	20.0	4 11.77	1 48.756	0 47.36	16.106	
	Europa	50.8	59.3	7.3	4 59.13	2 47.731			
	Weisse XIII, 354 .	45.2	53.6	1.9	6 53.57	1 48.684	0 47.26	16.201	
	Europa	32.6	40.8	49.1	7 40.83	2 47.754			
	Weisse XIII, 354 .	17.7	25.9	34.2	9 25.93	1 48.379	+0 47.27	— 16.026	
	Europa	5.1	13.2	21.3	13 10 13.20	2 47.274			
Apr. 28	Europa	0.4	8.6	16.7	12 12 8.57	2 40.855			m. s.
H.	Weisse XIII, 354 .	29.4	37.7	46.0	12 37.70	3 35.890	—0 29.13	+ 7.820	Corr. Chron. — 0 1.40
	Europa	31.0	39.3	47.6	14 39.30	2 41.022			α δ h. m. s. ° ′ ″
	Weisse XIII, 354 .	0.3	8.6	16.9	15 8.60	3 35.929	0 29.30	7.692	Weisse XIII, 354 13 22 41.11 + 2 24 34.00
	Europa	1.0	9.0	17.3	17 9.10	2 41.078			Europa—Weisse III, 354,
	Weisse XIII, 354 .	30.2	38.5	46.7	17 38.47	3 35.990	0 29.37	7.697	Δ α Δ δ h. m. s. m. s. ′ ″
	Europa	50.6	58.8	6.9	18 58.77	2 40.940			Sid. T. 12 25 36.32 — 0 29.60 + 2 0.28
	Weisse XIII, 354 .	20.0	28.1	36.4	19 28.17	3 36.024	0 29.40	7.869	Δ ρ .00 + .05 p — .05 + 2.32
	Europa	2.0	10.2	18.7	21 10.30	2 41.078			
	Weisse XIII, 354 .	31.5	39.8	48.0	21 39.77	3 35.995	0 29.47	7.702	
	Europa	54.0	2.3	10.4	23 2.23	2 40.966			
	Weisse XIII, 354 .	23.5	31.8	40.1	23 31.80	3 36.004	0 29.57	7.823	
	Europa	41.4	50.0	57.9	24 49.77	2 41.083			
	Weisse XIII, 354 .	11.0	19.2	27.5	25 19.27	3 36.046	0 29.50	7.748	
	Europa	30.5	38.8	46.9	26 38.73	2 41.102			
	Weisse XIII, 354 .	0.2	8.3	16.7	27 8.40	3 36.105	0 29.67	7.788	
	Europa	11.0	19.2	27.3	28 19.17	2 41.025			
	Weisse XIII, 354 .	40.5	48.9	57.0	28 48.80	3 36.150	0 29.63	7.910	
	Europa	56.2	4.4	. .	30 4.40	2 40.980			
	Weisse XIII, 354 .	25.9	34.1	42.3	30 34.10	3 36.168	0 29.70	7.973	
	Europa	39.4	47.8	. .	32 47.75	2 41.095			
	Weisse XIII, 354 .	9.2	17.5	25.8	33 17.50	3 36.191	0 29.75	7.881	
	Europa	21.6	29.9	38.1	34 29.87	2 41.121			
	Weisse XIII, 354 .	51.3	59.7	8.0	34 59.67	3 36.177	0 29.80	7.841	
	Europa	15.4	23.7	32.0	36 23.70	2 40.970			
	Weisse XIII, 354 .	45.6	53.8	1.8	36 53.73	3 36.236	0 30.03	8.051	
	Europa	58.1	6.5	14.6	38 6.40	2 41.015			
	Weisse XIII, 354 .	28.1	36.4	44.8	12 38 36.43	3 36.217	—0 30.03	+ 7.987	

EUROPA

DATE	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Apr. 29	Europa	54.5	2.7	10.7	11 54 2.63	2 40.580			Corr. Chron. — 0 1.02
	Weisse XIII, 351 .	53.9	2.0	10.5	55 2.13	5 41.832			α δ
	Weisse XIII, 354 .	1.4	9.6	17.8	55 9.60	3 46.420	—1 6.97	+ 18.625	h. m. s. ° ′ ″
F.									Weisse XIII, 354, 13 22 41.11 — 2 24 35.57
	Europa	40.7	49.1	57.4	57 49.07	2 40.725			
	(* 12)	7.9	16.2	. .	58 16.22	2 32.845			Europa—Weisse XIII, 354,
	Weisse XIII, 354 .	47.9	56.3	4.7	11 58 56.30	4 33.618	1 7.23	18.755	Δ α Δ δ
									h. m. s. m. s. ′ ″
	Europa	50.5	58.5	7.0	12 0 58.67	2 40.849			Sid. T. 12 30 18.01 — 1 7.99 + 4 51.52
	Weisse XIII, 354 .	57.5	. .	14.2	2 5.85	3 46.690	1 7.18	18.626	Δ ρ .00 + .13
									p — .04 + 2.32
	Europa	. .	. .	44.6	3 36.30	2 40.810			
	Weisse XIII, 354 .	. .	43.3	51.6	4 43.30	3 46.751	1 7.00	18.726	
	Europa	51.2	59.4	7.6	11 59.40	2 40.985			
	(* 12)	18.9	26.7	35.5	12 27.03	2 33.499			
	Weisse XIII, 354 .	58.6	6.8	15.2	13 6.87	4 33.945	1 7.47	18.822	
	Europa	23.5	31.4	40.0	15 31.63	2 40.965			
	Weisse XIII, 354 .	30.9	39.1	47.4	16 39.13	4 34.055	1 7.50	18.952	
	Europa	7.2	15.1	23.4	18 15.23	2 41.049			
	Weisse XIII, 354 .	14.5	22.8	31.1	19 22.80	4 34.160	1 7.57	18.973	
	Europa	34.2	42.4	50.4	20 42.33	2 40.962			
	Weisse XIII, 354 .	41.7	50.0	58.3	21 50.00	3 47.121	1 7.67	18.944	
	Europa	5.5	13.6	22.1	25 13.73	2 41.150			
	Weisse XIII, 354 .	13.4	21.5	29.8	26 21.57	3 47.249	1 7.84	18.884	
	Europa	15.3	23.4	31.3	29 23.33	2 41.120			
	Weisse XIII, 354 .	23.1	31.2	39.5	30 31.27	3 47.372	1 7.94	19.037	
	Europa	31.6	39.8	48.1	34 39.83	2 41.272			
	Weisse XIII, 354 .	39.7	47.8	56.3	35 47.93	3 47.525	1 8.10	19.038	
	Europa	45.8	54.2	2.5	38 54.17	2 41.209			
	Weisse XIII, 354 .	53.9	2.4	10.6	40 2.30	3 47.480	1 8.13	19.056	
	Europa	59.3	7.4	15.6	41 7.43	2 41.193			
	Weisse XIII, 354 .	7.5	15.6	23.8	42 15.63	3 47.761	1 8.20	19.353	
	Europa	23.0	31.2	39.3	43 31.17	2 41.290			
	Weisse XIII, 354 .	31.3	39.5	48.0	44 39.60	3 47.779	1 8.43	19.273	
	Europa	45.4	53.3	1.7	45 53.47	2 41.391			
	Weisse XIII, 354 .	53.6	1.8	10.2	47 1.87	3 47.859	1 8.40	19.253	
	Europa	55.5	3.8	11.9	48 3.73	2 41.472			
	Weisse XIII, 354 .	4.2	12.5	20.7	49 12.47	3 47.780	1 8.74	19.093	
	Europa	18.8	27.2	35.5	54 27.17	2 41.708			
	Weisse XIII, 354 .	27.7	35.8	44.3	55 35.93	3 48.049	1 8.76	19.126	
	Europa	5.4	13.3	21.7	57 13.47	2 41.720			
	Weisse XIII, 354 .	13.9	22.2	30.5	12 58 22.20	3 48.049	1 8.73	19.114	
	Europa	8.7	17.3	25.5	13 1 17.17	2 41.752			
	Weisse XIII, 354 .	17.9	. .	34.4	2 26.15	3 48.220	1 8.98	19.253	
	Europa	25.1	33.5	41.8	3 33.47	2 41.778			
	Weisse XIII, 354 .	34.3	42.5	50.8	13 4 42.53	3 48.260	1 9.06	19.267	
									m. s.
May 4	Europa	47.2	55.1	3.6	11 29 55.30	1 44.992			Corr. Chron. + 0 1.78
	Weisse XIII, 343 .	52.5	1.8	10.1	31 1.80	5 44.759	1 6.50	59.768	α δ
F.									h. m. s. ° ′ ″
	Europa	57.0	5.2	13.6	34 5.27	1 37.885			Weisse XIII, 303, 13 19 41.53 + 2 26 16.84
	Weisse XIII, 343 .	3.5	11.6	19.9	35 11.67	5 37.695	1 6.40	59.811	
									Europa—Weisse XIII, 303,
	Europa	17.6	25.9	34.3	36 25.93	1 37.921			Δ α Δ δ
	Weisse XIII, 303 .	24.5	32.8	41.2	37 32.83	5 37.722	1 6.90	59.802	h. m. s. m. s. ′ ″
									Sid. T. 11 44 53.59 — 1 6.90 +15 17.07
	Europa	19.2	27.2	35.3	38 27.23	1 37.973			Δ ρ .00 + .42
	Weisse XIII, 303 .	25.5	33.8	42.1	11 39 33.80	5 37.661	—1 6.57	+ 59.689	p — .08 + 2.29

EUROPA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ *a*	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
May 4	Europa	35.7	44.0	52.3	11 41 44.00	1 38.105			
F.	Weisse XIII, 303 .	42.6	50.7	59.2	42 50.83	5 37.790	—1 6.83	+ 59.686	
	Europa	42.9	51.0	59.3	43 51.07	1 38.062			
	Weisse XIII, 303 .	49.7	57.8	6.2	44 57.90	5 37.812	1 6.83	59.751	
	Europa	11.5	19.6	28.2	46 19.77	1 38.175			
	Weisse XIII, 303 .	18.5	26.5	35.0	47 26.67	5 38.011	1 6.90	59.837	
	Europa	57.5	5.6	14.0	49 5.70	1 38.252			
	Weisse XIII, 303 .	4.5	12.8	21.0	50 12.77	5 37.991	1 7.07	59.739	
	Europa	58.1	6.2	14.4	51 6.23	1 38.221			
	Weisse XIII, 303 .	5.2	13.4	21.5	52 13.37	5 38.008	1 7.14	59.788	
	Europa	1.6	9.5	18.1	53 9.73	1 38.265			
	Weisse XIII, 303 .	8.6	16.7	25.3	54 16.87	5 38.145	1 7.14	59.881	
	Europa	57.2	5.5	13.8	56 5.50	1 38.269			
	Weisse XIII, 303 .	4.6	12.8	21.2	57 12.87	5 38.125	1 7.37	59.857	
	Europa	9.5	17.6	26.2	58 17.77	1 38.401			
	Weisse XIII, 303 .	16.6	24.9	33.4	11 59 24.97	5 38.301	—1 7.20	+ 59.901	

CIRCE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
May 4	Weisse XIV, 1144	30.2	38.6	47.1	13 32 38.63	2 39.850			m. s. Corr. Chron. + 0 2.19
	Weisse XIV, 1149	46.0	54.0	3.0	32 54.33	3 42.222	+2 53.37	+ 4.890	α δ h. m. s. ° ′ ″
F.	Circe	39.4	47.5	56.2	35. 47.70	3 37.332			Weisse XIV, 1149, 15 1 34.54 —11 16 9.89
	Weisse XIV, 1144	46.6	55.0	3.2	38 54.93	2 39.950			
	Weisse XIV, 1149	2.4	10.9	19.2	39 10.83	3 42.341	2 52.95	4.919	Circe—Weisse XIV, 1149,
	Circe	55.5	3.7	12.1	42 3.78	3 37.422			Δ α Δ δ h. m. s. m. s. ′ ″
	Weisse XIV, 1149	42.7	51.4	59.5	43 51.20	3 42.859	+2 52.57	+ 4.799	Sid. T. 13 41 33.94 + 2 52.98 + 1 14.68
	Circe	35.6	43.7	52.0	13 46 43.77	3 38.060			Δ ρ .00 + .05 p — .10 + 4.09
May 5	Weisse XV, 3	7.4	16.0	24.4	13 27 15.93	2 38.574	+1 19.64	— 24.525	m. s. Corr. Chron. + 0 2.67
	Circe	27.1	35.6	44.0	28 35.57	4 37.237			α δ
H.	Weisse XV, 3	9.1	17.6	25.8	30 17.50	2 38.833	1 19.77	24.274	h. m. s. ° ′ ″ Weisse XV, 3, 15 2 17.67 —11 3 21.92
	Circe	29.0	37.1	45.7	31 37.27	4 37.245			Circe—Weisse XV, 3,
	Weisse XV, 3	9.4	18.0	26.5	34 17.97	2 39.004	1 19.60	24.281	Δ α Δ δ h. m. s. m. s. ′ ″
	Circe	29.1	37.6	46.0	35 37.57	4 37.423			Sid. T. 13 46 18.34 + 1 19.18 — 6 10.44
	Weisse XV, 3	48.3	56.7	5.1	36 56.70	2 38.990	1 19.50	24.211	Δ ρ .00 — .27
	Circe	7.8	16.1	24.7	38 16.20	4 37.339			p — .09 + 4.09
	Weisse XV, 3	25.8	34.1	42.5	39 34.13	2 39.031	1 19.34	24.223	
	Circe	45.0	53.4	2.0	40 53.47	4 37.392			
	Weisse XV, 3	13.3	21.9	30.2	42 21.80	2 39.048	1 19.40	24.251	
	Circe	32.8	41.2	49.6	43 41.20	4 37.437			
	Weisse XV, 3	57.2	5.4	14.0	45 5.53	2 39.043	1 19.10	24.311	
	Circe	16.1	24.7	33.1	46 24.63	4 37.492			
	Weisse XV, 3	39.1	47.5	56.0	47 47.53	2 39.205	1 19.07	24.021	
	Circe	58.3	6.4	15.1	49 6.60	4 37.364			
	Weisse XV, 3	16.2	24.7	33.2	50 24.70	2 39.336	1 18.97	24.026	
	Circe	35.1	43.7	52.2	51 43.67	4 37.500			
	Weisse XV, 3	14.1	22.5	31.0	53 22.53	2 39.276	1 18.84	23.991	
	Circe	33.0	41.3	49.8	54 41.37	4 37.405			
	Weisse XV, 3	59.0	7.4	16.0	56 7.47	2 39.310	1 18.86	24.018	
	Circe	18.0	26.3	34.7	57 26.33	4 37.466			
	Weisse XV, 3	37.3	45.7	54.0	13 58 45.67	2 39.460	1 18.66	23.990	
	Circe	56.0	4.3	12.7	14 0 4.33	4 37.588			
	Weisse XV, 3	48.5	56.9	5.3	1 56.90	2 39.504	+1 18.60	— 23.872	
	Circe	7.1	15.5	23.9	14 3 15.50	4 37.514			
May 7	Circe	47.4	55.8	4.2	13 4 55.80				
	Weisse XV, 3	8.6	17.0	25.5	5 17.03	. . .	—0 21.23		
H.	Circe	14.1	22.5	31.6	6 22.73				The sky thick and the planet extremely faint.
	Weisse XV, 3	35.9	44.1	52.8	6 44.27	. .	0 21.54		
	Circe	7.8	15.7	24.3	7 15.93				
	Weisse XV, 3	29.1	37.5	46.0	7 37.53	. . .	0 21.60		
	Circe	7.4	15.8	24.3	8 15.83				
	Weisse XV, 3	28.9	37.6	45.7	8 37.40	. . .	0 21.57		
	Circe	8.6	17.3	26.0	9 17.30				
	Weisse XV, 3	30.5	38.7	47.4	9 38.87	. . .	0 21.57		
	Circe	7.4	16.3	25.0	10 16.23				
	Weisse XV, 3	29.5	33.0	46.4	10 37.97	. . .	0 21.74		
	Circe	7.7	16.2	25.0	11 16.30				
	Weisse XV, 3	29.5	38.0	46.3	13 11 37.93	. . .	—0 21.63		

(Continued.)

CIRCE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1864. May 7	Circe	6.0	14.5	23.3	13 12 14.60				Corr. Chron. + 0 3.61
H.	Weisse XV, 3 . .	27.9	36.1	44.7	12 36.23	. . .	—0 21.63		α δ h. m. s. ° ′ ″
	Circe	. .	. .	. .	14 48.40	1 42.504			Weisse XV, 3 15 2 17.69 —11 3 21.58
	Weisse XV, 3 . .	. .	. .	. .	. . . .	2 42.446	. .	+ 17.073	Circe—Weisse V, 3,
	Circe	. .	. .	. .	17 14.20	1 42.498			Δ α Δ δ h m. . m. s. ′ ″
	Weisse XV, 3 . .	. .	. .	. .	. . . .	2 42.491	. . .	17.124	Sid. T. 13 27 42 — 0 22.25 + 4 25.32
	Circe	. .	. .	. .	19 0.20	1 42.564			Δ ρ .00 + .19
	Weisse XV, 3 . .	. .	. .	. .	. . . .	2 42.590	. . .	17.157	— .12 + 4.06
	Circe	. .	. .	. .	20 31.80	1 42.481			
	Weisse XV, 3 . .	. .	. .	. .	. . . .	2 42.560	. . .	17.210	
	Circe	. .	. .	. .	21 49.40	1 42.505			
	Weisse XV, 3 . .	. .	. .	. .	. . . .	2 42.587	. . .	17.213	
	Circe	. .	. .	. .	23 21.20	1 42.400			
	Weisse XV, 3 . .	. .	. .	. .	. . . .	2 42.649	. . .	17.380	
	Circe	. .	. .	. .	26 58.00	1 42.428			
	Weisse XV, 3 . .	. .	. .	. .	. . . .	2 42.736	. . .	17.439	
	Circe	. .	. .	. .	28 53.00	1 42.606			
	Weisse XV, 3 . .	. .	. .	. .	. . . .	2 42.818	. . .	17.345	
	Circe	. .	. .	. .	30 28.20	1 42.593			
	Weisse XV, 3 . .	. .	. .	. .	. . . .	2 42.835	. . .	17.373	
	Circe	. .	. .	. .	32 1.30	1 42.690			
	Weisse XV, 3 . .	. .	. .	. .	. . . .	2 42.842	. . .	17.283	
	Circe	. .	. .	. .	33 37.00	1 42.583			
	Weisse XV, 3 . .	. .	. .	. .	. . . .	2 42.872	. . .	17.420	
	Circe	. .	. .	. .	35 3.20	1 42.803			
	Weisse XV, 3 . .	. .	. .	. .	. . . .	2 42.900	. . .	17.228	
	Circe	. .	. .	. .	36 33.40	1 42.556			
	Weisse XV, 3 . .	. .	. .	. .	. . . .	2 42.950	. . .	17.525	
	Circe	. .	. .	. .	38 6.00	1 42.690			
	Weisse XV, 3 . .	. .	. .	. .	. . . .	2 42.976	. . .	+ 17.417	
	Circe	23.9	32.3	41.0	41 32.40				
	Weisse XV, 3 . .	46.4	54.9	3.2	41 54.83	. . .	0 22.43		
	Circe	18.6	26.9	35.6	42 27.03				
	Weisse XV, 3 . .	41.3	49.8	58.2	42 49.77	. . .	0 22.74		
	Circe	22.6	31.0	39.7	44 31.10				
	Weisse XV, 3 . .	45.6	53.9	2.3	44 53.93	. . .	0 22.83		
	Circe	21.2	29.8	38.3	45 29.77				
	Weisse XV, 3 . .	44.3	52.6	1.2	45 52.70	. . .	0 22.93		
	Circe	18.2	25.8	35.1	46 26.03				
	Weisse XV, 3 . .	41.1	49.5	58.0	46. 49.53	. . .	0 23.50		
	Circe	16.8	25.2	33.8	47 25.27				
	Weisse XV, 3 . .	40.0	48.2	56.6	47 48.27	. . .	0 23.00		
	Circe	22.2	30.4	38.8	48 30.47				
	Weisse XV, 3 . .	45.0	53.4	2.0	48 53.47	. . .	0 23.00		
	Circe	21.9	30.3	39.0	49 30.40				
	Weisse XV, 3 .	45.0	53.4	2.0	13 49 53 47	. . .	0 23.07		
May 16	Circe	19.8	27.9	36.6	12 4 28.10	1 48.990			
F.	Weisse XIV, 1048 .	23.7	31.9	40.5	6 32.03	5 40.005	2 3.93	+ 51.016	
	Circe	. .	44.3	52.7	11 44.27	2 32.310			
	Weisse XIV, 1048 .	40.2	48.6	57.2	12 13 48.67	5 40.264	—2 4.40	+ 50.824	

CIRCE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
May 16	Weisse XIV, 955 .	26.0	34.3	12.7	12 16 34.33	5 32.695			Corr. Chron. — 0 2.94
	(* 8)	47.1	54.2	3.7	17 55.33	4 38.011			α δ
F.	Circe	. .	51.6	59.5	19 51.32	2 32.232			h. m. s. ° ′ ″
	Weisse XIV, 1048 .	47.2	55.6	4.2	21 55.67	5 40.578	—2 4.35	+ 51.216	Weisse XIV, 1048, 14 56 35.21 —10 28 11.71
	Circe	53.5	. .	9.6	26 1.55	2 32.228			Circe—Weisse XIV, 1048,
	Weisse XIV, 1048 .	57.8	6.3	14.8	28 6.30	5 40.602	2 4.75	51.244	Δ α Δ δ h. m. s. m. s. ′ ″
	Circe	40.3	48,7	57,0	31 48.67	2 32.482			Sid. T. 12 37 53.43 — 2 5.17 +13 6.85
	Weisse XIV, 1048 .	45.3	53.5	2.2	33 53.67	5 40.952	2 5.00	51.340	Δ ρ + ,02 + .64 p — .10 + 2.40
	Circe	24.7	33.1	41,2	37 33.00	2 32.749			
	Weisse XIV, 1048 .	30.0	38.2	46.7	39 38.30	5 41,030	2 5.30	51.151	
	Circe	20.8	29.3	37,5	42 29.20	2 32.762			
	Weisse XIV, 1048 .	26.2	34.5	43.2	44 34.63	5 41,221	2 5.43	51.329	
	Circe	20.6	29.1	37.4	48 29.03	2 32.665			
	Weisse XIV, 1048 .	26.2	34,5	43,1	50 34.60	5 41.311	2 5.57	51.516	
	Circe	43.0	51,2	59.6	55 51.27	2 32.675			
	Weisse XIV, 1048 .	48.8	57.1	5.5	12 57 57.13	5 41,435	2 5.86	51.630	
	Circe	50.0	58,0	6,5	13 4 58.17	2 33.325			
	Weisse XIV, 1048 .	. .	4.1	12,5	7 4.22	5 41,870	2 6.05	51.415	
	Circe	57,6	5,6	14,4	14 5.87	2 33.425			
	Weisse XIV, 1048 .	3,7	12,1	20.5	16 12.10	5 42,198	—2 6.23	+ 51.643	
	(* 8)	27.0	35.2	43.7	13 16 35.30	5 47.875			

THETIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ a	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. May 30	Weisse XV, 144 .	18.6	26.8	35.1	13 41 26.83	3 33.502	+1 6.94	— 7.138	m. s. Corr. Chron. — 0 2.17
F.	Thetis	25.5	33.6	42.2	42 33.77	3 40.640			a δ h. m. s. ° ′ ″
	Weisse XV, 144 .	52.8	1.4	9.4	45 1.20	3 33.600	1 6.70	7.143	Weisse XV, 444, 15 24 59.82 — 9 7 23.95
	Thetis	59.7	7.7	16.3	46 7.90	3 40.743			
	Weisse XV, 144 .	41.3	49.5	57.8	47 49.53	3 33.560	1 6.80	7.088	Thetis—Weisse XV, 444,
	Thetis	48.1	56.2	4.7	48 56.33	3 40.648			Δ a Δ δ h. m. s. m. s. ′ ″
	Weisse XV, 144 .	5.7	13.9	22.3	50 13.97	3 33.632	1 6.80	7.154	Sid. T. 14 12 1.97 + 1 5.89 — 1 49.34
	Thetis	12.5	20.7	29.1	51 20.77	3 40.886			Δ ρ .00 — .07
	Weisse XV, 144 .	13.5	21.7	30.2	52 21.80	3 33.861	1 6.73	6.967	p — .11 + 5.27
	Thetis	20.2	28.4	37.0	53 28.53	3 40.828			
	Weisse XV, 144 .	15.9	24.2	32.6	55 24.23	3 33.819	1 6.57	7.161	
	Thetis	21.8	30.6	39.0	13 56 30.80	3 40.980			
	Weisse XV, 144 .	13.5	21.8	30.3	14 0 21.87	3 33.923	1 6.10	7.177	
	Thetis	19.7	27.9	36.3	1 27.97	3 41.100			
	Weisse XV, 144 .	34.5	42.7	50.9	2 42.70	3 33.966	1 6.20	7.093	
	Thetis	40.7	48.8	57.2	3 48.90	3 41.059			
	Weisse XV, 144 .	26.7	34.9	43.2	6 34.93	3 33.999	1 6.10	7.090	
	Thetis	. .	40.9	49.4	7 41.03	3 41.089			
	Weisse XV, 144 .	21.8	40.2	48.5	11 40.17	3 34.012	1 5.66	7.169	
	Thetis	37.6	45.7	54.3	12 45.83	3 41.181			
	Weisse XV, 144 .	21.9	30.2	28.5	14 30.20	3 33.975	1 5.73	7.148	
	Thetis	27.6	35.8	44.4	15 35.93	3 41.123			
	Weisse XV, 144	2.3	10.6	18.9	17 10.60	3 34.140	1 5.67	7.122	
	Thetis	7.9	16.4	14.5	18 16.27	3 41.262			
	Weisse XV, 144 .	7.9	16.2	24.6	20 16.23	3 34.270	1 5.54	7.029	
	Thetis	13.4	21.8	30.1	21 21.77	3 41.299			
	Weisse XV, 144 .	4.2	12.4	20.7	23 12.43	3 34.315	1 5.54	7.295	
	Thetis	9.6	17.9	26.4	24 17.97	3 41.610			
	Weisse XV, 144 .	48.6	56.7	5.2	23 56.83	3 34.409	1 5.24	7.165	
	Thetis	53.7	2.1	10.4	25 2.07	3 41.574			
	Weisse XV, 144 .	29.8	38.2	46.7	30 38.23	3 34.362	1 5.05	7.158	
	Thetis	34.9	43.2	. .	14 31 43.28	3 41.520			
	Weisse XV, 144 .	33.0	41.0	49.6	15 42 41.20	3 35.760	+1 2.73	— 7.109	
	Thetis	35.7	43.8	52.3	15 43 43.93	3 42.869			
May 31	Weisse XV, 444 .	6.9	15.4	23.7	13 51 15.33	3 34.530	+0 19.17	— 7.120	m. s. Corr. Chron. — 0 2.44
H.	Thetis	26.2	34.4	42.9	51 34.50	3 41.650			a δ h. m. s. ° ′ ″
	Weisse XV, 444 .	30.8	39.1	47.4	54 39.10	3 34.590	0 18.95	7.190	Weisse XV, 444, 15 24 59.55 — 9 7 22.27
	Thetis	. .	58.0	6.4	54 58.05	3 41.780			
	Weisse XV, 444 .	56.1	4.2	12.7	58 4.33	3 34.680	0 18.97	7.180	Thetis—Weisse XV, 444,
	Thetis	15.0	23.2	31.7	13 58 23.30	3 41.860			Δ a Δ δ h. m. s. m. s. ′ ″
	Weisse XV, 444 .	18.7	27.0	35.4	14 0 27.03	3 34.800	0 18.97	7.130	Sid. T. 14 4 28.68 + 0 18.68 — 1 49.71
	Thetis	37.7	46.0	54.3	0 46.00	3 41.930			Δ ρ .00 — .07
	Weisse XV, 444 .	30.0	38.1	46.6	2 38.23	3 34.880	0 18.74	7.110	p — .13 + 5.25
	Thetis	48.6	56.9	5.4	2 56.97	3 41.990			
	Weisse XV, 444 .	22.1	30.4	38.9	5 30.47	3 34.870	0 18.66	7.110	
	Thetis	40.8	49.1	57.5	5 49.13	3 41.980			
	Weisse XV, 444 .	43.4	51.6	0.1	8 51.70	3 34.940	+0 18.47	— 7.160	
	Thetis	1.9	10.1	18.5	14 9 10.17	3 42.100			

THETIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ a	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
May 31	Weisse XV, 444 .	25.7	34.1	42.4	14 11 34.07	3 34.960	+0 18.36	— 7.180	
	Thetis	44.1	52.3	0.9	11 52.43	3 42.140			
H.									
	Weisse XV, 444 .	28.9	37.1	45.6	13 37.20	3 35.000	0 18.30	7.210	
	Thetis	47.1	55.5	3.9	13 55.50	3 42.210			
	Weisse XV, 444 .	18.4	26.7	35.2	15 26.77	3 35.050	+0 18.40	— 7.140	
	Thetis	37.0	45.1	53.4	14 15 45.17	3 42.190			

BELLONA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. $\Delta\alpha$	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
June 3	Bellona	38.0	. .	54.5	10 41 46.25	4 38.375		
	Weisse XVI, 845 .	56.5	4.7	12.7	43 4.63	3 36.584	—1 18.38	— 14.868
F.	Bellona	41.5	49.5	57.0	47 49.33	4 38.435		
	Weisse XVI, 845 .	59.7	8.0	16.5	49 8.07	3 36.761	1 18.74	14.751
	Bellona	46.5	55.0	3.0	54 54.83	4 38.390		
	Weisse XVI, 845 .	5.7	14.0	21.8	56 13.83	3 36.818	1 19.00	14.649
	Bellona	32.5	40.7	49.0	57 40.73	4 38.739		
	Weisse XVI, 845 .	51.5	59.8	8.1	10 58 59.80	3 36.816	1 19.07	15.000
	Bellona	10.5	18.5	27.0	11 1 18.67	4 38.781		
	Weisse XVI, 845 .	30.5	38.0	46.7	2 38.40	3 36.720	1 19.73	15.137
	Bellona	32.5	40.5	49.2	7 40.73	4 38.805		
	Weisse XVI, 845 .	52.0	0.2	8.4	9 0.20	3 36.782	1 19.47	15.100
	Bellona	56.0	. .	12.5	11 4.25	4 38.852		
	Weisse XVI, 845 .	15.5	23.2	31.8	12 23.50	3 36.863	1 19.25	15.066
	Bellona	9.0	17.0	25.8	14 17.27	4 38.735		
	Weisse XVI, 845 .	28.5	37.0	45.7	15 37.07	3 36.922	1 19.80	14.890
	Bellona	37.7	. .	55.0	17 46.35	4 38.940		
	Weisse XVI, 845 .	57.5	. .	14.0	19 5.75	3 37.011	1 19.40	15.006
	Bellona	54.7	3.0	11.5	23 3.07	4 38.670		
	Weisse XVI, 845 .	15.2	23.2	31.5	11 24 23.30	3 37.192	—1 20.23	— 14.555
June 22	Bellona	45.4	53.2	1.7	15 22 53.43	5 47.788		
	Weisse XVI, 539 .	40.9	49.1	57.6	23 49.20	1 42.660	—0 55.77	— 65.129
F.	Bellona	54.1	2.5	10.6	32 2.40	5 47.820		
	Weisse XVI, 539 .	49.9	58.5	6.8	32 58.40	1 42.638	0 56.00	65.183
	Bellona	23.8	31.8	40.2	35 31.93	5 47.990		
	Weisse XVI, 539 .	19.5	27.8	36.5	36 27.93	1 42.720	0 56.00	65.271
	Bellona	49.6	58.0	6.4	39 58.00	5 48.203		
	Weisse XVI, 539 .	45.9	54.2	2.5	15 40 54.20	1 42.816	0 56.20	65.388
	Bellona	22.6	31.0	39.4	16 9 31.00	5 43.075		
	Weisse XVI, 539 .	19.6	27.6	36.5	10 27.90	1 37.550	0 56.90	65.526
	Bellona	16.3	25.0	33.5	13 24.93	5 43.510		
	Weisse XVI, 539 .	13.6	21.8	30.5	14 21.97	1 37.910	0 57.04	65.601
	Bellona	20.4	29.2	37.2	17 28.93	5 43.325		
	Weisse XVI, 539 .	17.8	26.2	34.5	18 26.17	1 38.090	0 57.24	65.236
	Bellona	30.8	39.3	47.5	24 39.20	5 43.572		
	Weisse XVI, 539 .	28.5	36.7	44.8	25 36.67	1 38.228	—0 57.47	— 65.345
	Weisse XVI, 544 .	52.2	0.8	9.1	16 26 0.70	1 45.958		

RESULTS.

June 3:

m. s.
Corr. Chron. — 6 34.30
α δ
h. m. s. ° ' "
Weisse XVI, 845, 16 44 38.07 — 8 37 49.24

Bellona—Weisse XVI, 845,
$\Delta\alpha$ $\Delta\delta$
h. m. s. m. s. ' "
M. T. 10 57 9.85 — 1 19.31 — 3 48.56
Δt — .22
$\Delta\rho$ .00 — .14
p — .06 + 3.27

June 22:

m. s.
Corr. Chron. + 0 0.60
α δ
h. m. s. ° ' "
Weisse XVI, 539, 16 29 11.70 + 8 34 9.82

Bellona—Weisse XVI, 539,
$\Delta\alpha$ $\Delta\delta$
h. m. s. m. s. ' "
Sid. T. 15 54 26.83 — 0 56.58 —16 42.85
$\Delta\rho$ .00 — .62
p — .03 + 3.03

JUNO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
June 14	B. A. C. 5724 . .	53.4	1.7	10.0	15 23 1.70	4 39.134	+1 0.53	+ 23.734	Corr. Chron. + 0 0.90
H.	Juno	53.9	2.3	10.5	24 2.23	2 41.262			α δ h. m. s. ° ′ ″
	B. A. C. 5724 .	29.4	37.7	46.0	25 37.70	4 39.149	1 0.40	23.660	B. A. C. 5724, 16 53 56.97 — 4 0 54.02
	Juno	29.8	38.1	46.4	26 38.10	2 41.351			
	B. A. C. 5724 . .	51.0	59.2	7.5	27 59.23	4 39.210	1 0.40	23.766	Juno—B. A. C. 5724, Δ α Δ δ
	Juno	51.5	59.6	7.8	28 59.63	2 41.306			h. m. s. m. s. ′ ″
	B. A. C. 5724 . .	46.1	54.4	2.8	30 54.43	4 39.312	1 0.37	23.746	Sid. T. 15 35 26.95 + 1 0.38 + 6 4.07
	Juno	46.5	54.9	3.0	31 54.80	2 41.428			Δ ρ .00 + .20 p — .06 + 2.50
	B. A. C. 5724 . .	2.0	10.2	18.7	33 10.30	4 39.350	1 0.37	23.707	
	Juno	2.4	10.7	18.9	34 10.67	2 41.505			
	B. A. C. 5724 . .	11.7	20.0	28.2	35 19.97	4 39.370	1 0.30	23.742	
	Juno	12.0	20.2	28.6	36 20.27	2 41.490			
	B. A. C. 5724 . .	34.9	43.1	51.5	38 43.17	4 39.459	1 0.10	23.747	
	Juno	35.0	43.2	51.6	39 43.27	2 41.574			
	B. A. C. 5724 . .	51.8	0.0	8.3	41 0.03	4 39.455	1 0.07	23.704	
	Juno	51.9	0.0	8.4	42 0.10	2 41.613			
	B. A. C. 5724 . .	5.2	13.4	21.9	43 13.50	4 39.579	0 59.90	23.791	
	Juno	5.2	13.3	21.7	44 13.40	2 41.650			
	B. A. C. 5724 . .	10.0	18.2	26.3	45 18.17	4 39.590	+0 59.86	+ 23.770	
	Juno	9.9	17.9	26.3	15 46 18.03	2 41.682			
									m. s.
June 15	B. A. C. 5724 . .	50.3	58.7	6.9	14 55 58.63	3 39.886	+0 11.60	+ 25.761	Corr. Chron. + 0 1.18
F.	Juno	2.1	10.2	18.4	56 10.23	1 44.041			α δ h. m. s. ° ′ ″
	B. A. C. 5724 . .	55.8	4.2	12.2	58 4.07	3 39.813	0 11.50	25.588	B. A. C. 5724, 16 53 57.03 — 4 0 53.84
	Juno	7.5	15.5	23.7	14 58 15.57	1 44.141			
	B. A. C. 5724 . :	31.6	39.8	47.9	15 0 39.77	3 40.015	0 11.36	25.658	Juno—B. A. C. 5724, Δ α Δ δ
	Juno . . .	43.1	51.1	59.2	0 51.13	1 44.273			h. m. s. m. s. ′ ″
	B. A. C. 5724 . .	15.7	23.8	32.2	5 23.90	3 39.888	0 11.20	25.284	Sid. T. 15 23 17.13 + 0 10.60 + 6 30.79
	Juno	26.8	35.1	43.4	5 35.10	1 44.520			Δ ρ .00 + .21 p — .07 + 2.48
	B. A. C. 5724 . .	33.5	41.7	50.1	7 41.77	3 40.061	0 11.10	25.428	
	Juno	44.6	52.8	1.2	7 52.87	1 44.549			
	B. A. C. 5724 . .	30.6	38.6	47.0	9 38.73	3 40.009	0 10.87	25.464	
	Juno	41.4	49.6	57.8	9 49.60	1 44.461			
	B. A. C. 5724 . .	30.8	39.1	47.2	18 39.03	3 40.038	0 10.77	25.486	
	Juno	41.3	49.9	58.2	18 49.80	1 44.468			
	B. A. C. 5724 . .	16.3	24.6	32.9	21 24.60	3 40.185	0 10.93	25.425	
	Juno	27.7	35.3	43.6	21 35.53	1 44.676			
	B. A. C. 5724 . .	22.7	30.8	39.2	23 30.90	3 40.209	0 10.60	25.405	
	Juno	33.2	41.6	49.7	23 41.50	1 44.720			
	B. A. C. 5724 . .	3.3	11.5	19.9	26 11.57	3 40.316	0 10.46	25.450	
	Juno	13.8	22.1	30.2	26 22.03	1 44.782			
	B. A. C. 5724 . .	26.4	34.6	42.9	28 34.63	3 40.339	0 10.30	25.493	
	Juno	36.7	44.8	53.3	28 44.93	1 44.762			
	B. A. C. 5724 . .	8.9	17.3	25.5	30 17.23	3 40.388	0 10.40	25.416	
	Juno	19.5	27.6	35.8	30 27.63	1 44.888			
	B. A. C. 5724 . .	7.4	15.6	23.9	32 15.63	3 40.468	0 10.24	25.473	
	Juno	17.6	25.9	34.1	32 25.87	1 44.911			
	B. A. C. 5724 . .	49.7	57.9	6.2	34 57.93	3 40.432	0 10.24	25.248	
	Juno	59.9	8.2	16.4	35 8.17	1 45.100			
	B. A. C. 5724 . .	40.9	49.1	57.6	36 49.20	3 40.611	+0 10.13	+ 25.516	(Continued.)
	Juno	51.1	59.3	7.6	15 36 59.33	1 45.011			

JUNO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. June 15	B. A. C. 5724 . .	48.5	56.8	5.2	15 38 56.83	3 40.635	+0 9.94	+ 25.611	
F.	Juno	58.5	6.8	15.0	39 6.77	1 44.940			
	B. A. C. 5724 . .	27.2	35.5	43.7	41 35.47	3 40.619	0 10.00	25.426	
	Juno	37.2	45.5	53.7	41 45.47	1 45.109			
	B. A. C. 5724 . .	6.2	14.6	22.7	43 14.50	3 40.675	0 9.93	25.390	
	Juno	16.2	24.5	32.6	43 24.43	1 45.201			
	B. A. C. 5724 . .	39.2	47.4	55.6	44 47.40	3 40.870	+0 9.77	+ 25.558	
	Juno	49.1	57.1	5.3	15 44 57.17	1 45.228			
June 16	Juno	31.9	40.0	48.2	16 21 40.03	1 45.395			m. s.
H.	B. A. C. 5724 . .	. .	20.8	28.9	22 20.78	3 42.517	−0 40.75	+ 27.038	Corr. Chron. + 0 1.48 α δ
	Juno	58.6	6.8	15.1	24 6.83	1 45.508			h. m. s. ° ′ ″
	B. A. C. 5724 . .	39.5	48.0	55.9	24 47.80	3 42.430	0 40.97	26.838	B. A. C. 5724, 16 53 57.03 − 4 0 53.84
	Juno	20.3	28.3	36.9	26 28.50	1 45.442			Juno—B. A. C. 5724,
	B. A. C. 5724 . .	1.5	9.4	17.8	27 9.57	3 42.505	0 41.07	26.979	Δ α Δ δ h. m. s. m. s. ′ ″
	Juno	22.4	30.6	38.7	28 30.57	1 45.424			Sid. T. 16 31 21.98 − 0 41.25 + 6 54.25
	B. A. C. 5724 . .	3.3	11.5	19.9	29 11.57	3 42.528	0 41.00	27.020	Δ ρ .00 + .21 p − .02 + 2.51
	Juno	13.8	21.8	30.1	30 21.90	1 45.350			
	B. A. C. 5724 . .	54.8	3.4	11.5	31 3.23	3 42.479	0 41.33	27.045	
	Juno	14.3	22.2	30.2	32 22.23	1 45.383			
	B. A. C. 5724 . .	55.6	3.8	11.7	33 3.70	3 42.578	0 41.47	27.111	
	Juno	11.6	19.6	27.9	34 19.70	1 45.412			
	B. A. C. 5724 . .	52.6	0.9	9.1	35 0.87	3 42.606	0 41.17	27.110	
	Juno	35.5	43.9	52.2	36 43.87	1 45.574			
	B. A. C. 5724 . .	17.1	25.2	33.4	37 25.23	3 42.616	0 41.36	26.958	
	Juno	24.1	32.2	40.4	38 32.23	1 45.512			
	B. A. C. 5724 . .	5.6	13.7	22.0	39 13.77	3 42.591	0 41.54	26.995	
	Juno	10.9	19.2	27.4	40 19.17	1 45.570			
	B. A. C. 5724 . .	52.9	0.9	9.1	16 41 0.97	3 42.665	−0 41.80	+ 27.011	
June 20	Juno	13.1	21.2	29.5	15 42 21.27	1 45.693			m. s. Corr. Chron. + 0 0.39
F.	Weisse XVI, 958 .	21.2	29.2	37.9	43 29.43	5 39.249	−1 8.16	+ 53.557	α δ h. m. s. ° ′ ″
	Juno	49.5	57.6	6.0	44 57.70	1 45.640			Weisse XVI, 958, 16 51 11.94 − 4 7 4.1
	Weisse XVI, 958 .	57.4	5.8	14.0	46 5.73	5 39.401	1 8.03	53.762	Juno—Weisse XVI, 958,
	Juno	33.6	41.8	50.3	48 41.90	1 45.611			Δ α Δ δ
	Weisse XVI, 958 .	41.9	50.2	58.4	49 50.17	5 39.389	1 8.27	53.779	h. m. s. m. s. ′ ″
	B. A. C. 5724 . .	26.8	35.1	43.3	15 52 35.07	3 42.645			Sid. T. 16 11 13.88 − 1 9.10 +13 40.51
	Juno	19.6	27.6	35.8	16 48 27.67	1 48.899			Δ ρ .00 + .43
	Weisse XVI, 958 .	29.8	38.2	46.5	49 38.17	5 41.965	1 10.50	53.067	p − .03 + 2.50
	Juno	30.5	38.9	47.0	51 38.80	1 48.940			
	Weisse XVI, 958 .	40.9	49.5	57.6	16 52 49.33	5 42.268	−1 10.53	+ 53.329	

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 4	Eunomia . . .	1.6	10.6	19.4	18 11 10.53	2 43.265			m. s. Corr. Chron. + 0 4.05
	Oeltzen S. 19903 .	9.4	18.2	27.2	12 18.27	3 39.240			α δ h. m. s. ° ′ ″
	Oeltzen S. 19909 .	22.3	31.4	40.6	12 31.43	5 35.660	−1 20.90	+ 35.265	Oeltzen S. 19909, 19 36 35.32 −23 34 47.40
F.	Eunomia . . .	5.4	14.2	23.1	14 14.23	2 43.285			Eunomia—Oeltzen S. 19909,
	Oeltzen S. 19903 .	13.3	21.9	30.9	15 22.03	3 39.351			Δ α Δ δ h. m. s. m. s. ′ ″
	Oeltzen S. 19909 .	26.3	35.3	44.3	15 35.30	5 35.690	1 21.07	35.275	
	Eunomia . . .	43.7	52.6	1.8	25 52.70	2 43.530			Sid. T. 18 24 55.35 − 1 21.76 + 9 1.56
	Oeltzen S. 19903 .	52.3	1.3	10.3	27 1.30	3 39.340			Δ ρ + .01 + .76
	Oeltzen S. 19909 .	5.8	15.0	23.8	27 14.87	5 36.100	1 22.17	35.440	p − .11 + 4.53
	Eunomia . . .	54.9	3.7	12.7	30 3.73	2 43.613			
	Oeltzen S. 19909 .	16.6	25.7	34.8	31 25.70	5 36.008	1 21.97	35.265	
	Eunomia . . .	27.6	36.5	45.6	32 36.57	2 43.560			
	Oeltzen S. 19909 .	49.8	58.7	7.8	33 58.77	5 35.891	1 22.20	35.201	
	Eunomia . . .	1.2	9.9	19.0	35 10.03	2 43.332			
	Oeltzen S. 19909 .	23.5	32.2	41.2	18 36 32.30	5 35.879	−1 22.27	+ 35.417	
July 25	B. A. C. 6607 . .	38.2	47.0	55.9	16 38 47.03	4 36.968	+0 47.67	+ 20.502	m. s. Corr. Chron. + 0 4.57
F.	Eunomia . . .	25.8	34.7	43.6	39 34.70	2 42.330			α δ h. m. s. ° ′ ″
	B. A. C. 6607 . .	47.8	56.5	5.6	40 56.63	4 37.159	0 47.47	20.406	B. A. C. 6607, 19 12 33.35 −22 38 52.20
	Eunomia . . .	35.1	44.2	53.0	41 44.10	2 42.615			Eunomia—B. A. C. 6607,
	B. A. C. 6607 . .	47.6	56.4	5.4	42 56.47	4 37.234	0 47.60	20.561	Δ α Δ δ h. m. s. m. s. ′ ″
	Eunomia . . .	35.1	44.1	53.0	43 44.07	2 42.535			Sid. T. 17 3 9.43 + 0 46.59 + 5 16.99
	B. A. C. 6607 . .	50.8	59.7	8.8	44 59.77	4 37.309	0 47.33	20.516	Δ ρ + .02 + .53
	Eunomia . . .	38.2	46.9	56.2	45 47.10	2 42.655			p − .15 + 4.46
	B. A. C. 6607 . .	46.0	54.9	3.8	46 54.90	4 37.491	0 47.40	20.472	
	Eunomia . . .	33.4	42.2	51.3	47 42.30	2 42.881			
	B. A. C. 6607 . .	50.8	59.7	8.7	51 59.73	4 37.773	0 47.00	20.642	
	Eunomia . . .	37.8	46.6	55.8	52 46.73	2 42.993			
	B. A. C. 6607 . .	46.0	55.2	4.2	53 55.13	4 37.910	0 46.90	20.650	
	Eunomia . . .	33.0	41.9	51.2	54 42.03	2 43.122			
	B. A. C. 6607 . .	13.3	22.5	31.4	56 22.40	4 38.022	0 46.77	20.544	
	Eunomia . . .	0.3	9.1	18.1	57 9.17	2 43.340			
	B. A. C. 6607 . .	9.8	18.7	27.6	58 18.70	4 38.105	0 46.73	20.662	
	Eunomia . . .	56.5	5.4	14.4	16 59 5.43	2 43.305			
	B. A. C. 6607 . .	10.7	19.5	28.4	17 0 19.53	4 38.279	0 46.64	20.822	
	Eunomia . . .	57.2	6.1	15.2	1 6.17	2 43.319			
	B. A. C. 6607 . .	17.0	26.3	35.0	5 26.10	4 38.210	0 46.50	20.603	
	Eunomia . . .	3.6	12.5	21.7	6 12.60	2 43.469			
	B. A. C. 6607 . .	28.4	37.4	46.5	7 37.43	4 38.399	0 46.37	20.806	
	Eunomia . . .	14.8	23.8	32.8	8 23.80	2 43.455			
	B. A. C. 6607 . .	33.8	42.6	51.9	9 42.77	4 38.517	0 46.46	20.787	
	Eunomia . . .	20.3	29.1	38.3	10 29.23	2 43.592			
	B. A. C. 6607 . .	32.5	41.4	50.5	11 41.47	4 38.617	0 46.10	20.846	
	Eunomia . . .	18.7	27.4	36.6	12 27.57	2 43.633			
	B. A. C. 6607 . .	20.5	29.2	38.4	13 29.37	4 38.721	0 46.03	20.748	
	Eunomia . . .	6.4	15.4	24.4	14 15.40	2 43.835			
	B. A. C. 6607 . .	7.0	15.9	24.8	15 15.90	4 38.718	0 46.03	20.715	
	Eunomia . . .	52.9	1.9	11.0	16 1.93	2 43.865			
	B A. C. 6607 . .	20.5	29.3	38.4	17 29.40	4 38.787	+0 45.83	+ 20.769	
	Eunomia . . .	6.3	15.3	24.1	17 18 15.23	2 43.880			

(Continued.)

EUNOMIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ *a*	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 25	B. A. C. 6607 . .	46.2	55.0	4.2	17 21 55.13	4 38.912	+0 45.84	+ 20.753	
	Eunomia . . .	22.2	40.8	49.9	22 40.97	2 44.021			
F.									
	B. A. C. 6607 . .	37.8	47.1	55.9	23 46.93	4 39.029	0 45.60	20.761	
	Eunomia . . .	23.5	32.5	41.6	24 32.53	2 44.130			
	B. A. C. 6607 . .	28.9	37.7	47.0	25 37.87	4 39.089	+0 45.63	+ 20.806	
	Eunomia . . .	14.6	23.4	32.5	17 26 23.50	2 44.145			

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s. Corr. Chron. + 0 4.26 α δ h. m. s. ° ′ ″ B. A. C. 6564, 19 5 21.90 — 8 9 33.46 Victoria—B. A. C. 6564, Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 17 39 7.60 — 0 32.50 — 6 51.70 Δ ρ .00 — .27 p — .18 — 7.46
July 5	Victoria	2.5	10.8	19.3	17 17 10.87	5 36.030			
	B. A. C. 6564 . .	34.4	42.5	50.9	17 42.60	3 35.222	—0 31.73	— 30.893	
H.	Victoria	26.9	35.1	43.5	20 35.17	5 36.210			
	B. A. C. 6564 . .	58.7	7.0	15.3	21 7.00	3 35.220	0 31.83	31.075	
	Victoria	9.2	17.8	25.9	22 17.63	5 36.131			
	B. A. C. 6564 . .	41.4	49.5	57.8	22 49.57	3 35.223	0 31.94	30.993	
	Victoria	59.0	7.3	15.7	24 7.33	5 36.238			
	B. A. C. 6564 . .	31.1	39.2	47.8	24 39.37	3 35.298	0 32.04	31.025	
	Victoria	10.2	18.6	26.9	27 18.57	5 36.163			
	B. A. C. 6564 . .	42.3	50.8	59.0	27 50.70	3 35.394	0 32.13	30.854	
	Victoria	11.4	19.9	28.1	29 19.80	5 36.160			
	B. A. C. 6564 . .	43.6	51.8	0.2	29 51.87	3 35.386	0 32.07	30.859	
	Victoria	3.7	12.0	20.2	31 11.97	5 36.186			
	B. A. C. 6564 . .	36.0	44.0	52.3	31 44.10	3 35.425	0 32.13	30.846	
	Victoria	12.5	20.8	29.1	34 20.80	5 36.269			
	B. A. C. 6564 . .	44.9	53.1	1.4	34 53.13	3 35.504	0 32.33	30.850	
	Victoria	19.6	27.8	36.1	36 27.87	5 36.272			
	B. A. C. 6564 . .	52.1	0.2	8.5	37 0.27	3 35.596	0 32.40	30.761	
	Victoria	28.4	36.8	45.0	38 36.73	5 36.230			
	B. A. C. 6564 . .	1.1	9.2	17.5	39 9.27	3 35.587	0 32.54	30.728	
	Victoria	57.8	6.1	14.3	41 6.07	5 36.336			
	B. A. C. 6564 . .	30.3	38.7	47.0	41 38.67	3 35.630	0 32.60	30.791	
	Victoria	55.2	3.4	11.7	43 3.43	5 36.346			
	B. A C. 6564 . .	28.0	36.0	44.3	43 36.10	3 35.646	0 32.67	30.785	
	Victoria	43.3	51.5	0.0	44 51.60	5 36.348			
	B. A. C. 6564 . .	16.1	24.3	32.7	45 24.37	3 35.715	0 32.77	30.718	
	Victoria	30.3	38.6	47.0	46 38.63	5 36.379			
	B. A. C. 6564 . .	3.2	11.3	19.7	47 11.40	3 35.858	0 32.77	30.606	
	Victoria	33.3	41.6	50.0	48 41.63	5 36.380			
	B. A. C. 6564 . .	6.2	14.3	22.6	49 14.37	3 35.886	0 32.74	30.579	
	Victoria	21.3	29.5	37.8	50 29.53	5 36.403			
	B. A. C. 6564 . .	54.1	2.4	11.0	51 2.50	3 35.919	0 32.97	30.569	
	Victoria	14.0	22.3	30.7	53 22.33	5 36.579			
	B. A. C. 6564 . .	47.0	55.2	3.5	53 55.23	3 36.103	0 32.90	30.561	
	Victoria	0.3	8.8	17.0	55 8.70	5 36.640			
	B. A. C. 6564 . .	33.5	41.8	50.0	55 41.77	3 36.205	0 33.07	30.520	
	Victoria	4.6	12.9	21.2	57 12.90	5 36.637			
	B. A. C. 6564 . .	37.7	46.1	54.4	57 46.07	3 36.184	0 33.17	30.538	
	Victoria	57.0	5.2	13.7	59 5.30	5 36.654			
	B. A. C. 6564 . .	30.3	38.6	46.9	17 59 38.60	3 36.190	—0 33.30	— 30.549	
July 13	Weisse XVIII, 1398	37.9	46.9	54.6	16 24 46.47	1 40.448	+2 13.26	— 60.102	
	Weisse XVIII, 1412	3.8	12.2	20.6	25 12.20	1 44.828	1 47.53	55.722	
	Victoria	51.4	59.7	8.1	26 59.73	5 40.549			
F.	Weisse XVIII, 1398	28.6	37.1	45.6	29 37.10	1 40.593	2 13.43	60.078	
	Weisse XVIII, 1412	54.9	3.3	11.8	30 3.33	1 44.830	1 47.20	55.841	
	Victoria	42.3	50.5	58.8	31 50.53	5 40.670			
	Weisse XVIII, 1398	24.2	32.7	41.1	33 32.67	1 40.836	2 13.40	59.908	
	Weisse XVIII, 1412	. .	58.8	7.0	33 58.67	1 45.208	+1 47.40	— 55.536	
	Victoria	37.7	46.1	54.4	16 35 46.07	5 40.743			

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
July 13	Weisse XVIII, 1398	55.8	4.1	12.7	16 37 4.20	1 40.972	+2 13.10	— 59.929	Corr. Chron. + 0 4.42
	Weisse XVIII, 1412	22.0	30.3	38.5	37 30.27	1 45.240	1 47.03	55.661	α δ
	Victoria	8.9	17.3	25.7	39 17.30	5 40.900			h. m. s. ° ′ ″
F.									Weisse XVIII, 1398, 18 55 46.37 — 7 32 11.33
	Weisse XVIII, 1398	6.7	15.1	23.5	40 15.10	1 41.050	2 13.02	59.900	Weisse XVIII, 1412, 18 56 12.24 — 7 33 18.33
	Weisse XVIII, 1412	32.7	41.2	49.6	40 41.17	1 45.322	1 46.95	55.628	
	Victoria	. .	28.2	36.5	42 28.12	5 40.949			Victoria—Weisse XVIII, 1398,
									Δ α Δ δ
	Weisse XVIII, 1398	32.7	41.0	49.2	43 40.97	1 41.088	2 12.90	59.972	h. m. s. m. s. ′ ″
	Weisse XVIII, 1412	. .	7.2	15.4	44 7.17	1 45.445	1 46.70	55.615	Sid. T. 16 51 44.88 + 2 12.66 —15 18.17
	Victoria	45.6	53.8	2.2	45 53.87	5 41.059			Δ ρ + .02 — .64
									p — .28 + 7.25
	Weisse XVIII, 1398	10.6	18.8	27.2	47 18.87	1 41.232	2 12.70	59.923	
	Weisse XVIII, 1412	36.6	44.7	53.3	47 44.87	1 45.583	1 46.70	55.572	Victoria—Weisse XVIII, 1412,
	Victoria	23.3	31.6	39.8	49 31.57	5 41.154			h. m. s.
									Sid. T. 16 51 44.88 + 1 46.61 —14 12.25
	Weisse XVIII, 1398	29.3	37.6	46.2	50 37.70	1 41.380	2 12.57	59.893	Δ ρ + .01 — .54
	Weisse XVIII, 1412	55.4	3.8	12.1	51 3.77	1 45.701	1 46.50	55.572	p — .28 + 7.25
	Victoria	42.0	50.2	58.6	52 50.27	5 41.272			
	Weisse XVIII, 1398	3.5	11.7	20.1	54 11.77	1 41.500	2 12.43	59.907	
	Weisse XVIII, 1412	29.3	37.8	46.2	54 37.77	1 45.716	1 46.43	55.691	
	Victoria	15.9	24.2	32.5	56 24.20	5 41.406			
	Weisse XVIII, 1398	29.8	37.9	. .	57 37.97	1 41.625	2 12.56	59.808	
	Weisse XVIII, 1412	55.8	4.1	12.3	58 4.07	1 45.935	1 46.46	55.498	
	Victoria	42.2	50.5	58.9	16 59 50.53	5 41.432			
	Weisse XVIII, 1398	13.7	22.2	30.4	17 2 22.10	1 41.820	2 12.17	59.711	
	Weisse XVIII, 1412	29.7	48.0	56.6	2 48.10	1 46.030	1 46.17	55.501	
	Victoria	25.9	34.3	42.6	4 34.27	5 41.530			
	Weisse XVIII, 1398	50.2	58.4	6.7	5 58.43	1 41.829	2 12.27	59.717	
	Weisse XVIII, 1412	16.2	24.6	32.9	6 24.57	1 46.214	1 46.13	55.332	
	Victoria	2.5	10.6	19.0	8 10.70	5 41.545			
	Weisse XVIII, 1398	33.3	41.4	50.0	10 41.57	1 41.929	2 11.96	59.710	
	Weisse XVIII, 1412	59.4	7.8	16.1	11 7.77	1 46.245	1 45.76	55.394	
	Victoria	45.2	53.4	2.0	12 53.53	5 41.638			
	Weisse XVIII, 1398	35.5	44.0	53.4	14 44.30	1 42.172	2 11 47	59.530	
	Weisse XVIII, 1412	1.8	10.1	18.5	15 10.13	1 46.311	+1 45.64	— 55.391	
	Victoria	47.5	55.6	4.2	17 16 55.77	5 41.701			
									m. s.
July 14	Weisse XVIII, 1398	48.1	56.5	4.7	16 15 56.43	1 38.995	+1 24.44	— 49.717	Corr. Chron. + 0 4.32
	Weisse XVIII, 1412	14.1	22.5	30.7	16 22.43	1 43.348	0 58.44	45.364	α δ
	Victoria	12.6	20.7	29.3	17 20.87	4 45.719			h. m. s. ° ′ ″
F.									Weisse XVIII, 1398, 18 55 46.38 — 7 32 11.23
	Weisse XVIII, 1398	3.2	11.4	19.7	19 11.43	1 39.232	1 24.17	49.651	Weisse XVIII, 1412, 18 56 12.25 — 7 33 18.24
	Weisse XVIII, 1412	29.3	. .	45.5	19 37.40	1 43.663	0 58.20	45.220	
	Victoria	27.1	35.6	44.1	20 35.60	4 45.890			Victoria—Weisse XVIII, 1398,
									Δ α Δ δ
	Weisse XVIII, 1398	27.6	35.8	44.4	22 35.93	1 39.321	1 24.07	49.567	h. m. s. m. s. ′ ″
	Weisse XVIII, 1412	. .	1.9	10.5	23 2.03	1 43.593	0 57.97	45.295	Sid. T. 16 40 22.02 + 1 23.57 —12 37.95
	Victoria	51.7	59.8	8.5	24 0.00	4 45.895			Δ ρ + .01 — .55
									p — .30 + 7.35
	Weisse XVIII, 1398	25.1	33.6	41.8	25 33.50	1 39.479	1 24.03	49.413	
	Weisse XVIII, 1412	. .	59.4	7.8	25 59.40	1 43.668	0 58.13	45.224	Victoria—Weisse XVIII, 1412,
	Victoria	49.3	57.5	5.8	26 57.53	4 45.899			h. m. s.
									Sid. T. 16 40 22.02 + 0 57.54 —11 31.96
	Weisse XVIII, 1398	36.5	44.7	53.2	29 44.80	1 39.602	1 23.90	49.523	Δ ρ + .01 — .50
	Weisse XVIII, 1412	2.4	10.6	19.2	30 10.73	1 43.832	0 57.97	45.293	p — .30 + 7.35
	Victoria	0.4	8.6	17.1	31 8.70	4 46.132			
	Weisse XVIII, 1398	53.8	2.0	10.6	35 2.13	1 39.680	1 23.90	49.442	
	Weisse XVIII, 1412	19.9	28.3	36.5	35 28.23	1 44.055	0 57.80	45.067	
	Victoria	17.6	26.0	34.5	36 26.03	4 46.129			
	Weisse XVIII, 1398	8.8	17.2	25.6	38 17.20	1 39.870	1 23.53	49.435	
	Weisse XVIII, 1412	34.9	43.2	51.7	38 43.27	1 44.252	+0 57.46	— 45.053	
	Victoria	32.3	40.8	49.1	16 39 40.73	4 46.312			

(Continued.)

VICTORIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ *a*	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 14	Weisse XVIII, 1398	38.4	46.7	55.0	16 41 46.70	1 39.975	+1 23.50	— 49.383	
	Weisse XVIII, 1412	. .	12.5	20.8	42 12.50	1 44.290	0 57.70	45.068	
	Victoria	1.8	10.2	18.6	43 10.20	4 46.365			
F.	Weisse XVIII, 1398	26.3	34.4	42.8	44 34.50	1 40.100	1 23.37	49.362	
	Weisse XVIII, 1412	52.2	0.8	9.1	45 0.70	1 44.480	0 57.17	44.982	
	Victoria	49.5	57.9	6.2	45 57.87	4 46.469			
	Weisse XVIII, 1398	23.8	32.2	40.5	49 32.17	1 40.195	1 23.10	49.263	
	Weisse XVIII, 1412	49.9	58.0	6.5	49 58.13	1 44.480	0 57.14	44.978	
	Victoria	46.9	55.2	3.7	50 55.27	4 46.465			
	Weisse XVIII, 1398	23.3	31.5	39.8	51 31.53	1 40.329	1 23.20	49.313	
	Weisse XVIII, 1412	49.4	57.7	6.1	51 57.73	1 44.557	0 57.00	45.085	
	Victoria	46.4	54.7	3.1	52 54.73	4 46.649			
	Weisse XVIII, 1398	33.7	41.9	50.7	54 42.10	1 40.445	1 23.03	49.318	
	Weisse XVIII, 1412	59.7	7.9	16.7	55 8.10	1 44.743	0 57.03	45.020	
	Victoria	56.8	5.2	13.4	56 5.13	4 46.770			
	Weisse XVIII, 1398	50.0	58.4	6.7	56 58.37	1 40.543	1 22.90	49.270	
	Weisse XVIII, 1412	16.1	24.4	32.8	57 24.43	1 44.813	0 56.84	45.000	
	Victoria	13.0	21.3	29.5	58 21.27	4 46.820			
	Weisse XVIII, 1398	2.8	10.9	19.2	59 10.97	1 40.595	1 22.86	49.217	
	Weisse XVIII, 1412	28.7	37.1	45.4	16 59 37.07	1 44.825	+0 56.76	— 44.987	
	Victoria	25.5	33.8	42.2	17 0 33.83	4 46.819			

PSYCHE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. July 15	(* 10.5) . . .	7.9	16.2	25.3	17 37 16.47	5 49.245			m. s. Corr. Chron. + 0 4.39 α δ h. m. s. ° ′ ″ Oeltzen S. 20423, 20 13 14.95 —17 14 58.46 Psyche—Oeltzen S. 20423, Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 18 3 57.78 + 0 22.78 — 4 2.88 Δ ρ — .01 — .28 p — .14 + 3.83
	Oeltzen S. 20423 .	42.8	51.4	0.4	37 51.53	3 43.612	+0 23.70	— 15.685	
	Oeltzen S. 20426 .	48.2	. .	5.2	37 56.70	1 42.482			
F.	Psyche . . .	. .	15.2	24.0	38 15.23	4 46.220			
	(* 10.5) . . .	27.0	35.7	44.3	50 35.67	5 49.806			
	Oeltzen S. 20423 .	2.1	10.8	19.6	51 10.83	3 44.332	0 23.17	15.728	
	Oeltzen S. 20426 .	7.0	15.6	24.2	51 15.60	1 43.062			
	Psyche	. .	33.9	42.7	51 34.00	4 46.983			
	Oeltzen S. 20423 .	9.2	17.9	26.8	58 17.97	3 44.592	0 23.06	15.833	
	Psyche	32.4	40.9	49.8	17 58 41.03	4 47.348			
	Oeltzen S. 20423 .	0.1	8.7	17.4	18 0 8.73	3 44.865	0 22.95	15.657	
	Psyche	. .	31.6	40.4	0 31.68	4 47.445			
	Oeltzen S. 20423 .	49.8	58.4	7.3	1 58.50	3 44.889	0 22.80	15.686	
	Psyche	12.5	21.4	30.0	2 21.30	4 47.498			
	Oeltzen S. 20423 .	16.8	25.2	34.1	4 25.37	3 44.822	0 22.76	15.863	
	Psyche	39.7	48.0	56.7	4 48.13	4 47.608			
	(* 11)	21.7	30.2	38.9	24 30.27	4 48.515			
	Oeltzen S. 20423 .	14.5	23.0	31.8	25 23.10	3 45.462	0 21.83	16.184	
	Psyche	36.2	45.0	53.6	25 44.93	4 48.569			
	Oeltzen S. 20423 .	40.2	48.8	57.5	28 48.83	3 45.695	+0 21.97	— 16.052	
	Psyche	2.2	10.7	19.5	18 29 10.80	4 48.670			
July 16	Psyche	7.4	16.1	24.8	18 20 16.10	4 44.277			m. s. Corr. Chron. + 0 4.43 α δ h. m. s. ° ′ ″ Oeltzen S. 20423, 20 30 14.96 —17 14 58.59 Psyche—Oeltzen S. 20423, Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 18 34 2.04 — 0 27.24 — 7 30.98 Δ ρ — .01 — .46 p — .11 + 3.92
H.	Oeltzen S. 20423 .	34.3	42.9	51.6	20 42.93	2 40.904	—0 26.83	— 29.235	
	Psyche	50.6	59.3	8.0	22 59.30	4 44.383			
	Oeltzen S. 20423 .	17.4	26.1	34.8	23 26.10	2 40.933	0 26.80	29.312	
	Psyche	55.3	3.9	12.6	27 3.93	4 44.590			
	Oeltzen S. 20423 .	22.3	30.8	39.4	27 30.83	2 41.048	0 26.90	29.404	
	Psyche	24.6	33.2	41.9	29 33.23	4 44.648			
	Oeltzen S. 20423 .	51.9	0.4	9.0	30 0.43	2 41.145	0 27.20	29.365	
	Psyche	51.0	59.7	8.5	31 59.73	4 44.664			
	Oeltzen S. 20423 .	18.2	26.7	35.4	32 26.77	2 41.173	0 27.04	29.353	
	Psyche	52.7	1.4	10.0	35 1.37	4 44.790			
	Oeltzen S. 20423 .	20.1	28.7	37.3	35 28.70	2 41.190	0 27.33	29.462	
	Psyche	29.9	38.6	47.2	37 38.57	4 44.918			
	Oeltzen S. 20423 .	57.3	5.7	14.5	38 5.83	2 41.178	0 27.26	29.602	
	Psyche	56.3	5.1	13.9	41 5.10	4 45.184			
	Oeltzen S. 20423 .	23.9	32.6	41.1	41 32.53	2 41.700	0 27.43	29.346	
	Psyche	45.5	54.2	2.9	45 54.20	4 45.434			
	Oeltzen S. 20423 .	13.3	22.0	30.5	46 21.93	2 41.810	0 27.73	29.486	
	Psyche	56.0	4.6	13.2	48 4.60	4 45.495			
	Oeltzen S. 20423 .	23.7	32.5	41.2	18 48 32.47	2 41.888	—0 27.87	— 29.469	
July 29	Psyche	44.3	52.6	1.2	19 21 52.70	2 29.570			m. s. Corr. Chron. + 0 4.63 α δ h. m. s. ° ′ ″ Oeltzen S. 20294, 20 3 32.57 —18 12 51.90 Psyche—Oeltzen S. 20294, Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 19 40 9.21 — 1 41.39 + 4 26.64 Δ ρ .00 + .25 p — .03 + 4.09
F.	Oeltzen S. 20294 .	24.7	33.2	42.1	23 33.33	3 34.361	—1 40.63	+ 17.576	
	Psyche	49.0	57.8	6.2	25 57.67	2 29.731			
	Oeltzen S. 20294 .	29.9	38.5	47.2	27 38.53	3 34.361	1 40.86	17.415	
	Psyche . .	50.7	59.0	7.7	28 59.13	2 29.710			
	Oeltzen S. 20294 .	31.3	40.0	38.8	30 40.03	3 34.578	1 40.90	17.653	
	Psyche	23.8	32.0	41.0	34 32.27	2 29.823			
	Oeltzen S. 20294 .	4.8	13.6	22.1	19 36 13.50	3 34.589	—1 41.23	+ 17.551	

PSYCHE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
July 29	Psyche	22.1	30.6	39.2	19 37 30.63	2 30.005			
F.	Oeltzen S. 20294	3.3	12.1	20.8	39 12.07	3 34.600	—1 41.44	+ 17.380	
	Psyche	26.5	35.1	43.6	43 35.07	2 30.065			
	Oeltzen S. 20294	7.9	16.4	25.4	45 16.57	3 34.602	1 41.50	17.332	
	Psyche	40.8	49.3	58.3	46 49.47	2 30.230			
	Oeltzen S. 20294	22.3	31.0	39.8	48 31.03	3 34.795	1 41.56	17.350	
	Psyche	39.6	48.2	57.1	49 48.30	2 30.149			
	Oeltzen S. 20294	21.3	30.1	38.6	51 30.00	3 34.622	1 41.70	17.258	
	Psyche	15.9	24.7	33.3	54 24.63	2 30.308			
	Oeltzen S. 20294	58.0	6.5	15.1	56 6.53	3 34.790	1 41.90	17.267	
	Psyche	7.3	15.8	24.6	57 15.90	2 30.340			
	Oeltzen S. 20294	49.4	57.9	6.9	19 58 58.07	3 34.619	—1 42.17	+ 17.064	

ARIADNE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		$\Delta\alpha$	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Aug. 1	Weisse XXI, 1085 . .	24.5	32.5	40.7	11 7 32.57	3 33.518	+2 3.68	+ 27.569	m. s. Corr. Chron. — 0 8.15
F.	Ariadne	28.0	. .	44.5	9 36.25	1 35.865			α δ
	Weisse XXI, 1085 .	6.2	14.0	22.4	11 14.20	3 33.615	2 3.40	27.511	h. m. s. ° ′ ″ Weisse XXI, 1085, 21 46 50.98 — 7 8 49.43
	Ariadne	9.7	17.3	25.8	13 17.60	1 36.020			Ariadne—Weisse XXI, 1085,
	Weisse XXI, 1085 .	16.0	24.1	32.3	14 24.13	3 33.835	2 2.72	27.802	$\Delta\alpha$ $\Delta\delta$
	Ariadne	18.5	. .	35.2	16 26.85	1 35.949			h. m. s. m. s. ′ ″ M. T. 11 19 39.6 + 2 3.04 + 7 1.85
	Weisse XXI, 1085 .	18.0	26.0	34.5	19 26.17	3 33.890	2 2.98	27.494	Δt + .34 . .
	Ariadne	20.8	. .	37.5	21 29.15	1 36.312			$\Delta\rho$ + .01 + .20
	Weisse XXI, 1085 .	12.3	20.6	28.9	24 20.60	3 34.001	2 2.80	27.347	p — .32 + 6.57
	Ariadne	15.3	. .	31.5	26 23.40	1 36.570			
	Weisse XXI, 1085 .	24.0	31.8	40.5	29 32.10	3 34.129	+2 2.67	+ 27.307	
	Ariadne	26.8	34.5	43.0	11 31 34.77	1 36.738			
Aug. 3	Weisse XXI, 1085 .	38.6	46.9	55.3	18 15 46.93	3 40.902	+0 21.57	+ 12.377	m. s. Corr. Chron. — 0 4.75
F.	Ariadne	0.2	8.6	16.7	16 8.50	2 41.310			α δ
	Weisse XXI, 1085 .	14.2	22.3	30.6	19 22.37	3 40.910	0 21.40	12.462	h. m. s. ° ′ ″ Weisse XXI, 1085, 21 46 51.01 — 7 8 53.57
	Ariadne	35.4	43.7	52.2	19 43.77	2 41.233			Ariadne—Weisse XXI, 1085,
	Weisse XXI, 1085 .	1.3	9.7	18.2	21 9.73	3 40.975	0 21.20	12.399	$\Delta\alpha$ $\Delta\delta$
	Ariadne	22.7	30.7	39.4	21 30.93	2 41.361			h. m. s. m. s. ′ ″ Sid. T. 18 31 7.61 + 0 20.95 + 3 9.04
	Weisse XXI, 1085 .	2.6	10.8	19.2	23 10.87	3 41.117	0 21.23	12.420	$\Delta\rho$ + .01 + .1
	Ariadne	23.7	32.1	40.5	23 32.10	2 41.482			p — .37 + 6.47
	Weisse XXI, 1085 .	51.3	59.8	8.3	24 59.80	3 41.242	0 21.07	12.332	
	Ariadne	12.6	20.8	29.2	25 20.87	2 41.695			
	Weisse XXI, 1085 .	7.5	15.8	24.5	27 15.93	3 41.300	0 21.10	12.194	
	Ariadne . .	28.7	36.9	45.5	27 37.03	2 41.891			
	Weisse XXI, 1085 .	14.5	22.8	31.2	29 22.83	3 41.500	0 20.84	12.249	
	Ariadne	35.5	43.6	51.9	29 43.67	2 40.036			
	Weisse XXI, 1085 .	57.9	6.3	14.8	31 6.33	3 41.681	0 21.00	12.343	
	Ariadne	18.9	27.3	35.8	31 27.33	2 42.123			
	Weisse XXI, 1085 .	52.5	0.8	9.4	35 0.90	3 41.700	0 20.83	12.283	
	Ariadne	13.4	21.7	30.1	35 21.73	2 42.202			
	Weisse XXI, 1085 .	21.5	39.6	48.3	37 39.80	3 41.807	0 20.73	12.264	
	Ariadne	52.3	0.6	8.7	38 0.53	2 42.328			
	Weisse XXI, 1085 .	56.7	5.2	13.6	43 5.17	3 42.059	0 20.66	12.359	
	Ariadne	17.5	25.8	34.2	43 25.83	2 42.485			
	Weisse XXI, 1085 .	35.2	43.6	51.9	44 43.57	3 42.250	0 20.36	12.355	
	Ariadne	55.6	3.9	12.3	45 3.93	2 42.680			
	Weisse XXI, 1085 .	12.3	20.5	28.8	46 20.53	3 42.263	+0 20.37	+ 12.202	
	Ariadne	32.5	40.8	49.4	18 46 40.90	2 42.846			

CALYPSO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ a	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Aug. 5	Calypso	53.7	2.5	10.7	19 16 2.30	5 42.565			Corr. Chron. + 0 2.83
	(* 12)	. .	22.7	30.8	16 22.45	5 43.410			a δ h. m. s. ° ′ ″
	Weisse XXI, 1106 .	50.7	59.1	7.7	16 59.17	1 24.910	—0 56.87	— 77.656	
F.									Weisse XXI, 1106, 21 47 46.47 —12 36 18.79
	Calypso	26.4	34.7	43.2	33 34.77	5 53.062			
	Weisse XXI, 1106 .	23.4	31.7	40.5	34 31.87	1 34.439	0 57.10	78.624	Calypso—Weisse XXI, 1106,
	Calypso	23.4	32.3	40.0	37 31.90	5 53.430			Δ a Δ δ h. m. s. m. s. ′ ″
	Weisse XXI, 1106 .	20.9	29.3	37.9	19 38 29.37	1 34.482	0 57.47	78.949	Sid. T. 19 36 59.57 — 0 57.27 —20 5.70
	Calypso	29.6	38.2	46.2	20 0 38.00	5 54.305			Δ ρ — .02 — 1.09 p — .13 + 3.39
	Weisse XXI, 1106 .	27.1	35.6	44.2	20 1 35.63	1 35.091	—0 57.63	— 79.215	
Aug. 24	Calypso . . .	54.3	. .	19.5					m. s. Corr. Chron. + 0 5.94
		58.6	7.0	15.7	19 28 7.03	4 43.560			a δ h. m. s. ° ′ ″
F.	Weisse XXI, 739	11.6	. .	36.6					
		15.5	24.0	32.7	29 24.08	2 37.542	—1 17.05	— 31.880	Weisse XXI, 793, 21 31 54.42 —14 39 49.06
	Calypso . . .	37.6	. .	2.7					Calypso—Weisse XXI, 793,
		41.6	50.3	58.6	34 50.16	4 44.200			Δ a Δ δ h. m. s. m. s. ′ ″
	Weisse XXI, 739	55.0	. .	20.3					
		59.1	7.3	15.9	19 36 7.52	2 37.920	1 17.36	32.142	Sid. T. 19 53 10.38 — 1 17.95 — 8 16.19
	Calypso . . .	56.2	. .	21.2					Δ ρ — .01 — .43 p — .10 + 3.56
		0.3	8.8	17.3	20 1 8.76	4 45.908			
	Weisse XXI, 739	. .	. .	39.7					
		. .	26.7	35.4	2 26.93	2 39.262	1 18.17	32.508	
	Calypso . . .	18.8	. .	44.1					
		22.8	31.3	40.1	6 31.42	4 47.682			
	Weisse XXI, 739	37.5	. .	2.2					
		41.3	50.0	58.5	7 49.90	2 40.989	1 18.48	32.555	
	Calypso . . .	25.6	. .	50.6					
		29.5	37.9	46.6	14 38.04	4 49.785			
	Weisse XXI, 739	44.3	. .	9.3					
		48.3	56.6	5.2	20 15 56.74	2 42.971	—1 18.70	— 32.676	
Aug. 29	Calypso . . .	59.1	. .	24.1					m. s.
		3.2	11.6	19.9	19 21 11.58	4 31.782			Corr. Chron. + 0 7.80
F.	Oeltzen S. 21480	38.2	. .	3.2					a δ h. m. s. ° ′ ″
		42.2	50.5	59.0	21 50.62	3 36.672	—0 39.04	— 8.187	Oeltzen S. 21480, 21 27 10.14 —15 13 26.83
	Oeltzen S. 21490	17.8	. .	42.8					
		21.7	30.4	38.8	22 30.30	3 29.549			Calypso—Oeltzen S. 21480,
	Calypso . . .	28.6	. .	53.6					Δ a Δ δ h. m. s. m. s. ′ ″
		32.6	40.9	48.9	32 40.92	4 32.569			Sid. T. 19 47 41.65 — 0 39.85 — 2 12.15
	Oeltzen S. 21480	7.8	. .	32.8					Δ ρ .00 — .12
		11.7	20.4	28.7	33 20.28	3 36.820	0 39.36	8.826	p — .10 + 3.58
	Calypso . . .	58.8	. .	24.2					
		2.7	11.2	19.6	36 11.30	4 32.362			
	Oeltzen S. 21480	38.2	. .	3.0					
		42.1	50.5	59.2	36 50.60	3 37.220	0 39.30	8.219	
	Calypso . . .	37.8	. .	2.6					
		41.6	50.6	58.5	39 50.22	4 32.452			
	Oeltzen S. 21480	17.5	. .	42.3					
		21.3	29.7	38.2	40 29.80	3 37.229	0 39.58	8.300	
	Calypso . . .	36.1	. .	1.0					
		40.1	48.5	56.8	42 48.50	4 32.678			
	Oeltzen S. 21480	15.9	. .	40.7					
		19.7	28.3	36.7	43 28.26	3 37.093	0 39.76	8.662	
	Calypso . . .	13.2	. .	37.7					
		16.8	25.1	33.4	48 25.24	4 32.663			
	Oeltzen S. 21480	52.5	. .	17.6					
		56.6	5.1	13.5	19 49 5.06	3 37.168	—0 39.82	— 8.572	

(Continued.)

CALYPSO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ *a*	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Aug. 29 F.	Calypso - - -	2.3 6.2	. . 14.6	27.1 23.2	19 50 14.68	4 32.898			
	Oeltzen S. 21480	42.4 46.3	. . 55.0	7.4 3.3	19 50 54.88	3 37.320	—0 40.20	— 8.655	
	Calypso - - -	32.9 37.0	. . 45.5	58.1 53.8	20 3 45.46	4 33.629			
	Oeltzen S. 21480	13.5 17.5	. . 25.9	38.5 34.3	4 25.94	3 37.792	0 40.48	8.914	
	Calypso . - -	52.6 55.7	. . 4.3	. . . .	8 4.49	4 33.902			
	Oeltzen S. 21480	32.5 36.3	. . 44.8	57.3 53.2	8 44.82	3 37.882	0 40.33	9.097	
	Calypso - - -	9.6 13.5	. . 21.7	34.4 30.5	12 21.94	4 33.902			
	Oeltzen S. 21480	50.1 54.0	. . 2.5	15.2 10.9	20 13 2.54	3 38.249	—0 40.60	— 8.730	

COMET, 1864, I.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	COMET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1864. Aug. 12	Weisse XIII, 81	34.2	42.3	50.4	17 40 42.30	4 43.919	+2 37.03	+ 32.402	Corr. Chron. + 0 2.83
	Comet	11.4	19.3	27.3	43 19.33	2 37.379			α δ h. m. s. ° ′ ″
F.	Weisse XIII, 81	55.2	3.3	11.6	48 3.37	4 42.991	2 41.80	28.948	Weisse XIII, 81, 13 6 22.84 − 2 46 27.60
	Comet	36.8	45.1	53.6	50 45.17	2 39.905			Comet—Weisse XIII, 81,
	Weisse XIII, 81	55.5	3.6	12.0	54 3.37	4 42.425	+2 45.00	+ 27.157	Δα Δδ h. m. s. m. s. ′ ″
	Comet	39.8	48.5	56.8	17 54 48.37	2 41.130			Sid. T. 17 49 40.46 + 2 41.28 + 7 32.48 Δρ − .07 + .98 p + 1.88 + 24.52
Aug. 15	Weisse XIII, 580	19.4 23.1	. . 31.6	43.8 39.8	17 53 31.54	5 38.559			m. s. Corr. Chron. + 0 3.95 α δ h. m. s. ° ′ ″
F.	Weisse XIII, 676	2.5 6.3	. . 14.4	27.3 23.1	59 14.72	2 35.505	+0 27.32	− 2.924	Weisse XIII, 676, 13 40 14.24 − 7 49 20.33
	Weisse XIII, 682	14.8 18.1	. . 26.1	38.5 34.9	59 26.48	2 29.060			Comet—Weisse XIII, 676,
	Comet	29.6 33.7	. . 42.1	54.5 50.3	17 59 42.04	2 38.429			Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 18 5 8.42 + 0 28.93 − 0 56.75 Δρ − .01 − .14
	Weisse XIII, 676	40.5 44.5	. . 52.7	5.1 1.4	18 3 52.84	2 35.205	0 28.88	3.585	p + 1.70 + 16.60
	Comet	9.4 13.6	. . 21.4	34.3 29.9	4 21.72	2 38.790			
	Weisse XIII, 676	11.9 15.6	. . 23.8	36.0 32.2	6 23.90	2 34.884	0 29.50	3.911	
	Comet	41.3 44.8	. . 53.5	5.6 1.8	6 53.40	2 38.795			
	Weisse XIII, 676	38.3 42.4	. . 50.7	3.1 59.1	8 50.72	2 34.620	+0 30.00	− 4.380	
	Comet	8.5 12.7	. . 20.6	32.9 28.9	18 9 20.72	2 39.000			
Aug. 29	Weisse XIV, 199	36.7 40.6	. . 48.9	1:5 57.5	18 16 49.04	2 47.100	+2 13.91	− 39.095	m. s. Corr. Chron. + 0 7.70 α δ h. m. s. ° ′ ″
F.	Comet	50.5 54.5	. . . .	15.4 11.4	19 2.95	5 43.325			Weisse XIV, 199, 14 12 13.64 −13 4 59.17
	Comet	57.8 1.4	. . 9.1	22.1 18.0	23 9.68	5 43.772			Comet—Weisse XIV, 199, Δ α Δ δ h. m. s. m. s. ′ ″
	Weisse XIV, 241	. . .	. . . .	30.8 26.8	23 15.43	3 41.469			Sid. T. 18 36 14.86 + 2 15.73 −10 14.67 Δρ + .20 − 2.62 p + .44 + 6.23
	Weisse XIV, 199	23.7 27.5	. . 36.0	48.3 . .	26 35.90	2 37.724	2 14.60	39.796	
	Comet	38.4 42.5	. . 50.5	2.5 58.6	28 50.50	5 34.650			
	Weisse XIV. 199	46.8 50.5	. . 58.9	11.7 7.7	32 59.12	2 36.548	2 14.58	39.942	
	Comet	1.2 5.6	. . 13.6	26.3 21.8	35 13.70	5 33.620			
	Weisse XIV, 199	32.8 36.8	. . 45.2	57.0 53.8	38 45.30	2 35.262	2 14.86	40.233	
	Comet	47.6 51.8	. . 0.3	12.6 8.5	41 0.16	5 32.625			
	Weisse XIV, 199	2.2 6.1	. . 14.5	26.8 23.2	42 14.56	2 34.240	2 15.12	40.480	
	Comet	17.3 21.3	. . 29.4	42.1 38.3	44 29.68	5 31.850			
	Weisse XIV, 199	35.4 39.4	. . 47.9	0.3 56.3	45 47.86	2 33.190	+2 15.30	− 40.910	
	Comet	51.0 54.7	. . 3.0	15.3 11.8	48 3.16	5 31.230			
	Weisse XIV, 277	39.1 43.2	. . 51.6	3.9 0.0	18 49 51.56	2 34.461			

COMET, 1864, I.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	COMET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ a	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Aug. 31 F.	Comet - - -	21.9 26.0	. . 34.4	46.7 43.3	18 18 34.46	3 34.461			Corr. Chron. + 0 m. 9.44 s.
	Weisse XIV, 293	. . . .	. . 55.7	8.5 4.6	19 55.93	2 43.792	—1 21.47	— 6.454	a h. m. s.; δ ° ′ ″ Weisse XIV, 293, 14 17 14.63 —13 27 50.35 Weisse XIV, 316, 14 18 3.05 —13 28 18.05
	Weisse XIV, 316	. . . .	. . 44.2	56.3 52.4	20 43.96	2 42.218	2 9.50	5.028	Comet—Weisse XIV, 293,
	Comet - - -	10.9 14.6	. . 22.9	35.6 31.5	23 23.10	3 46.660			h. m. s.; △ a m. s.; △ δ ′ ″ Sid. T. 18 37 7.49 — 1 21.14 — 1 44.10
	Weisse XIV, 293	31.8 35.9	. . 44.7	57.0 53.2	24 44.52	3 40.042	1 21.42	6.618	Δ ρ + .03 — .48 p + .42 + 6.00
	Weisse XIV, 316	. . . .	. . 32.3	45.1 40.9	25 32.32	3 41.779	2 9.22	4.881	Comet—Weisse XIV, 316,
	Comet - - -	32.7 36.6	. . 45.3	57.7 53.5	26 45.16	3 46.313			h. m. s. Sid. T. 18 37 7.49 — 2 9.09 — 1 18.13
	Weisse XIV, 293	54.3 58.2	. . 6.7	19.3 15.5	27 6.80	3 39.492	1 21.64	6.821	Δ ρ + .03 — .37 p + .43 + 6.00
	Weisse XIV, 316	42.4 46.2	. . 54.6	6.9 3.3	28 54.68	3 41.335	2 9.52	4.978	
	Comet - - -	7.6 11.1	. . 19.3	32.2 27.7	30 19.58	3 46.000			
	Weisse XIV, 293	28.8 32.7	. . 40.8	53.5 49.5	31 41.06	3 38.971	1 21.48	7.029	
	Weisse XIV, 316	16.6 20.6	. . 28.8	41.5 37.6	32 29.02	3 40.720	2 9.44	5.280	
	Comet - - -	45.4 49.5	. . 57.2	9.5 5.8	35 57.48	3 44.782			
	Weisse XIV, 293	6.2 10.4	. . 18.7	31.5 27.3	37 18.82	3 37.822	1 21.34	6.960	
	Weisse XIV, 316	54.6 58.3	. . 6.4	19.2 15.4	37 6.78	3 39.472	2 9.30	5.310	
	Comet - - -	9.8 14.2	. . 22.5	34.7 30.6	39 22.36	3 43.755			
	Weisse XIV, 293	30.8 34.8	. . 43.5	55.7 51.8	40 43.32	3 37.022	1 20.96	6.733	
	Weisse XIV, 316	19.1 22.9	. . 31.4	44.2 40.2	41 31.56	3 38.690	2 9.20	5.065	
	Comet - - -	22.7 27.3	. . 35.9	47.9 43.7	43 35.50	3 37.670			
	Weisse XIV, 293	43.7 47.6	. . 55.9	9.2 4.7	44 56.22	3 30.817	1 20.72	6.853	
	Weisse XIV, 316	31.8 35.7	. . 44.2	56.7 52.9	45 44.26	3 32.338	2 8.76	5.332	
	Comet - - -	47.5 51.6	. . 59.5	12.2 7.4	46 59.64	3 36.649			
	Weisse XIV, 293	7.8 12.0	. . 20.4	33.1 28.8	48 20.42	3 29.852	1 20.78	6.797	
	Weisse XIV, 316	56.0 0.0	. . 8.3	20.8 16.9	49 8.40	3 31.530	2 8.76	5.119	
	Comet - - -	27.5 31.6	. . 40.2	52.7 48.7	50 40.14	3 35.406			
	Weisse XIV, 293	48.5 52.8	. . 1.1	13.4 9.5	52 1.06	3 28.420	1 20.92	6.986	
	Weisse XIV, 316	36.4 40.6	. . 48.9	1.5 37.3	52 48.94	3 30.160	2 8.80	5.246	
	Comet - - -	55.5 59.6	 8.0	 . .	54 7.99	3 33.687			
	Weisse XIV, 293	16.2 20.1	. . 28.7	41.3 36.8	55 28.62	3 27.071	1 20.63	6.616	
	Weisse XIV, 316	4.1 8.0	. . 16.3	28.8 24.8	56 16.40	3 28.987	—2 8.41	— 4.700	

PALLAS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		$\Delta\alpha$	Δ mic.	
1864.		s.	s.	s.	h. m. s.		m. s.	revs.	m. s.
Sept. 1	Pallas	39.3 43.2	. . 51.5	3.5 59.7	21 2 51.44	2 36.088			Corr. Chron. + 0 11.02 α δ h. m. s. ° ′ ″
H.	B. A. C. 7827 . .	22.4 26.3	. . 34.6	46.9 43.0	4 34.64	5 39.864	−1 43.20	+ 46.646	B. A. C. 7827, 22 21 2.44 + 4 1 21.75
	Pallas	42.0 46.0	. . 54.0	6.2 2.3	5 54.10	2 36.373			Pallas—B. A. C. 7827, $\Delta\alpha$ $\Delta\delta$ h. m. s. m. s. ′ ″
	B. A. C. 7827 . .	25.3 29.2	. . 37.4	49.8 45.8	7 37.50	5 39.850	1.43.40	46.347	Sid. T. 21 18 30.02 − 1 43.67 +11 41.33 $\Delta\rho$ .00 + .28 p − .05 + 2.14
	Pallas	17.9 21.8	. . 29.9	42.2 38.0	9 29.96	2 36.840			
	B. A. C. 7827 . .	1.1 5.1	. . 13.3	25.5 21.6	11 13.32	5 39.890	1 43.36	45.920	
	Pallas	24.9 28.9	. . 37.2	49.2 45.3	12 37.10	2 36.993			
	B. A. C. 7827 . .	8.2 12.1	. . 20.5	32.6 28.7	14 20.42	5 39.897	1 43.32	45.774	
	Pallas	9.0 12.7	. . 21.1	33.3 29.3	16 21.08	2 37.245			
	B. A. C. 7827 . .	52.7 56.6	. . 4.6	17.2 13.1	17 4.84	5 40.047	1 43.76	45.672	
	Pallas	2.3 6.2	. . 14.7	26.7 22.8	20 14.54	2 37.290			
	B. A. C. 7827 . .	46.1 50.0	. . 58.2	10.5 6.5	21.58.26	5 40.035	1 43.72	45.615	
	Pallas	54.5 58.4	. . 6.6	18.8 14.7	24 6.60	2 37.381			
	B. A. C. 7827 . .	38.3 42.4	. . 50.5	2.8 58.9	25 50.58	5 40.122	1 43.98	45.611	
	Pallas	0.9 5.0	. . 12.7	25.2 21.4	27 13.04	2 37.524			
	B. A. C. 7827 . .	45.0 48.7	. . 56.6	9.2 5.3	28 56.96	5 40.098	1 43.92	45.444	
	Pallas	31.8 35.8	. . 44.3	56.3 52.3	30 44.10	2 37.776			
	B. A. C. 7827 . .	15.9 19.8	. . 28.0	40.2 36.3	32 28.04	5 40.151	1 43.94	45.245	
	Pallas	25.9 29.8	. . 37.7	50.1 46.7	33 38.04	2 38.006			
	B. A. C. 7827 . .	10.0 13.9	. . 22.1	34.2 30.3	21 35 22.10	5 40.128	−1 44.06	+ 44.992	
Sept. 16	Weisse XXII, 129 .	19.6	27.4	36.0	20 24 27.67	1 37.611			m. s. Corr. Chron. + 0 20.92
	Weisse XXII, 153 .	29.4	37.7	. .	25 37.72	1 45.927	+0 2.28	− 55.454	α δ
	Pallas	31.8	40.0	48.2	25 40.00	5 41.380			h. m. s. ° ′ ″ Weisse XXII, 153, 22 8 43.53 + 1 16 51.18
F.	Weisse XXII, 153 .	45.8	53.8	2.3	28 53.97	1 46.052	0 2.06	55.490	
	Pallas	47.6	56.1	4.4	28 56.03	5 41.541			Pallas—Weisse XXII, 153,
	Weisse XXII, 153 .	34.3	42.3	50.8	30 42.47	1 46.071	0 2.06	55.285	$\Delta\alpha$ $\Delta\delta$ h. m. s. m. s. ′ ″
	Pallas	36.2	44.5	52.9	30 44.53	5 41.355			Sid. T. 20 43 47.92 + 0 1.83 −14 15.90
	Weisse XXII, 153 .	16.4	24.5	32.8	32 24.57	1 45.955	0 2.13	55.446	$\Delta\rho$ .00 − .40 p − .07 + 2.29
	Pallas	18.5	26.7	34.9	32 26.70	5 41.400			
	Weisse XXII, 153 .	12.5	20.7	29.0	37 20.73	1 46.112	0 2.07	55.450	
	Pallas	14.6	22.7	31.1	37 22.80	5 41.561			
	Weisse XXII, 153 .	13.9	22.0	30.4	39 22.10	1 46.179	0 1.90	55.817	
	Pallas	15.7	24.0	32.3	39 24.00	5 41.995			
	Weisse XXII, 153 .	39.1	47.5	55.7	43 47.43	1 46.198	+0 1.77	− 55.823	
	Pallas	40.9	49.1	57.6	20 43 49.20	5 42.020			

(Continued.)

PALLAS.

DATE	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	 B.	 C.	 Mean.	MIC.	PLANET—STAR. Δ α	 Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 16	Weisse XXII, 153 .	7.5	15.9	24.2	20 45 15.87	1 46.335	+0 1.83	— 55.706	
	Pallas	9.4	17.7	26.0	45 17.70	5 42.040			
F.	Weisse XXII, 153 .	4.4	12.6	21.1	47 12.70	1 46.285	0 1.67	55.958	
	Pallas	6.0	14.4	22.7	47 14.37	5 42.242			
	Weisse XXII, 153 .	21.2	29.6	37.9	50 29.57	1 46.451	0 1.53	55.965	
	Pallas	23.2	30.9	39.2	50 31.10	5 42.415			
	*Weisse XXII, 153 .	20.1	. .	44.3	52 22 20	1 46.438	0 1.55	56.035	
	Pallas	25.5	. .	42.0	52 33.75	5 42.472			
	Weisse XXII, 153 .	16.2	. .	40.5	56 28.35	1 46.615	0 1.70	56.168	
	Pallas	21.6	. .	38.5	56 30.05	5 42.782			
	Weisse XXII, 153 .	50.9	. .	14.9	59 2.90	1 46.920	0 1.65	56.281	
	Pallas	56.3	. .	12.8	20 59 4.55	5 43.200			
	Weisse XXII, 153 .	59.6	. .	. .	21 1 11.68	1 46.965	+0 1.45	— 56.387	
	Pallas	4.9	13.1	21.4	21 1 13.13	5 43.351			
Sept. 17	Weisse XXII, 113 .	22.4	30.6	38.9	19 45 30.63	2 42.786	+1 10.44	— 25.510	m. s. Corr. Chron. + 0 21.56
II.	Pallas	32.8	41.1	49.3	46 41.07	4 42.434			α δ h. m. s. ° ′ ″
	Weisse XXII, 113 .	22.1	30.4	38.6	48 30.37	2 42.909	1 10.30	25.551	Weisse XXII, 113, 22 6 58.45 + 0 56 42.94
	Pallas	32.5	40.6	48.9	49 40.67	4 42.598			Pallas—Weisse XXII, 113,
	Weisse XXII, 113 .	16.5	24.8	33.0	52 24.77	2 42.988	1 10.36	25.682	Δ α Δ δ h. m. s. m. s. ′ ″
	Pallas	27.0	35.1	43.3	53 35.13	4 42.808			Sid. T. 20 5 1.79 + 1 10.03 — 6 40.22
	Weisse XXII, 113 .	36.3	44.6	52.8	54 44.57	2 43.010	1 10.30	25.771	Δ ρ .00 — .21
	Pallas	46.7	54.8	3.1	55 54.87	4 42.919			p — .10 + 2.30
	Weisse XXII, 113 .	56.1	4.4	12.6	56 4.37	2 43.018	1 10.20	25.900	
	Pallas	6.4	14.5	22.8	19 58 14.57	4 43.056			
	Weisse XXII, 113 .	1.0	9.2	17.6	20 0 9.27	2 43.126	1 10.13	25.939	
	Pallas	11.2	19.3	27.7	1 19.40	4 43.203			
	Weisse XXII, 113 .	35.0	43.2	51.5	2 43.23	2 43.118	1 10.07	26.118	
	Pallas	45.1	33.3	1.5	3 33.30	4 43.374			
	Weisse XXII, 113 .	46.2	54.3	2.6	4 54.37	2 43.189	1 10.00	26.168	
	Pallas	56.1	4.3	12.7	6 4.37	4 43.495			
	Weisse XXII, 113 .	15.6	23.8	32.1	7 23.83	2 43.289	1 10.00	26.267	
	Pallas	25.6	33.8	42.1	8 33.83	4 43.694			
	Weisse XXII, 113 .	43.0	51.2	59.3	9 51.17	2 43.347	1 9.86	26.308	
	Pallas	52.8	1.0	9.3	11 1.03	4 43.793			
	Weisse XXII, 113 .	29.9	38.0	46.4	12 38.10	2 43.427	1 9.83	26.406	
	Pallas	39.7	47.9	56.2	13 47.93	4 43.971			
	Weisse XXII, 113 .	3.4	11.8	20.0	15 11.73	2 43.545	1 9.77	26.524	
	Pallas	13.3	21.4	29.8	16 21.50	4 44.207			
	Weisse XXII, 113 .	26.6	34.9	43.1	17 34.87	2 43.637	1 9.63	26.542	
	Pallas	36.3	44.4	52.8	18 44.50	4 44.317			
	Weisse XXII, 113 .	33.3	41.4	49.7	20 41.47	2 43.706	+1 9.56	— 26.640	
	Pallas	42.9	51.0	59.2	20 21 51.03	4 44.484			

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* The transits of the first star are on a. c.; of the second on A. C.

ISIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	PLANET—STAR. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 2 F.	Oeltzen S. 22373 .	50.8	0.2	9.4	19 27 0.13	2 35.413	+0 15.57	+ 1.210	m. s. Corr. Chron. + 0 11.46 α δ h. m. s. ° ′ ″ Oeltzen S. 22373, 22 37 4.28 —26 59 48.74 Isis—Oeltzen S. 22373, △ α △ δ h. m. s. m. s. ′ ″ Sid. T. 19 36 1.22 + 0 15.07 + 0 17.46 Δ ρ .00 + .07 p — .38 + 7.47
	Isis	6.7	15.6	24.8	27 15.70	2 34.203			
	Oeltzen S. 22373 .	22.9	32.1	41.2	28 32.07	2 35.900	0 15.06	1.330	
	Isis	37.9	47.2	56.3	28 47.13	2 34.570			
	Oeltzen S. 22373 .	11.8	21.1	30.3	31 21.07	2 36.240	0 15.16	1.238	
	Isis	26.7	36.4	45.6	31 36.23	2 35.002			
	Oeltzen S. 22373 .	53.0	2.1	11.4	32 2.17	2 36.562	0 15.03	1.114	
	Isis	7.8	17.3	26.5	32 17.20	2 35.448			
	Oeltzen S. 22373 .	46.7	55.7	5.2	34 55.87	2 36.925	0 15.33	1.125	
	Isis	1.9	11.2	20.5	35 11.20	2 35.800			
	Oeltzen S. 22373 .	37.2	46.3	55.6	36 46.37	2 37.020	0 14.80	1.099	
	Isis	51.6	1.3	10.6	37 1.17	2 35.921			
	Oeltzen S. 22373 .	22.6	31.7	41.4	38 31.90	2 37.382	0 15.13	1.163	
	Isis	37.8	47.0	56.3	38 47.03	2 36.219			
	Oeltzen S. 22373 .	2.1	11.2	20.5	40 11.27	2 37.599	0 14.91	1.014	
	Isis	16.9	26.2	35.3	40 26.18	2 36.585			
	Oeltzen S. 22373 .	40.8	50.2	59.3	41 50.10	2 37.663	0 14.90	1.088	
	Isis	55.8	4.8	14.4	42 5.00	2 36.575			
	Oeltzen S. 22373 .	26.7	35.8	45.1	43 35.87	2 37.935	+0 14.86	+ 1.014	
	Isis	41.4	50.6	0.2	19 44 50.73	2 36.921			
Sept. 9 F.	Wash. Z. LIV, 17 .	59.4	8.7	18.2	21 1 8.77	4 47.208	+1 10.33	+ 53.891	m. s. Corr. Chron. + 0 16.30 α δ h. m. s. ° ′ ″ Wash. Z. LIV, 17, 22 30 54.12 —27 34 4.52 Isis—Wash. Z. LIV, 17, △ α △ δ h. m. s. m. s. ′ ″ Sid. T. 21 22 32.12 + 1 9.82 —13 48.45 Δ ρ + .03 — 1.56 p — .16 — 8.10
	Isis	9.8	19.0	28.5	2 19.10	1 36.310			
	Wash. Z. LIV, 17 .	46.1	55.2	4.7	3 55.33	5 35.945	1 10.30	54.037	
	Isis	56.4	5.5	15.0	4 5.63	1 41.909			
	Wash. Z. LIV, 17 .	37.2	46.2	55.8	6 46.40	5 35.585	1 10.50	54.024	
	Isis	47.7	56.8	6.2	7 56.90	1 41.562			
	Wash. Z. LIV, 17 .	2.9	12.2	21.5	9 12.20	5 35.700	1 10.27	54.109	
	Isis	13.1	22.4	31.9	10 22.47	1 41.592			
	Wash. Z. LIV, 17 .	10.9	20.2	29.6	15 20.23	5 35.785	1 9.94	54.014	
	Isis	20.8	30.2	39.5	16 30.17	1 41.772			
	Wash. Z. LIV, 17 .	41.1	50.2	0.1	17 50.47	5 35.895	1 9.83	54.141	
	Isis	51.0	0.3	9.6	19 0.30	1 41.755			
	Wash. Z. LIV, 17 .	59.5	8.5	18.2	23 8.73	5 36.101	1 9.77	54.091	
	Isis	9.2	18.5	27.8	24 18.50	1 42.011			
	Wash. Z. LIV, 17 .	17.2	26.3	35.7	25 26.40	5 36.080	1 9.73	54.012	
	Isis	26.8	36.0	45.6	26 36.13	1 42.069			
	Wash. Z. LIV, 17 .	43.2	52.5	1.8	27 52.50	1 36.136	1 9.53	53.978	
	Isis	52.6	2.0	11.5	29 2.03	5 42.159			
	Wash. Z. LIV, 17 .	59.2	8.5	17.8	31 8.50	1 36.209	1 9.47	53.890	
	Isis	8.6	18.1	27.2	32 17.97	5 42.320			
	Wash. Z. LIV, 17 .	44.3	53.6	3.2	39 53.70	1 35.942	1 9.40	54.083	
	Isis	53.8	2.9	12.6	41 3.10	5 41.860			
	Wash. Z. LIV, 17 .	19.3	28.6	38.0	51 28.63	1 36.220	+1 8.74	+ 53.921	
	Isis	27.9	37.4	46.8	53 37.37	5 42.300			
Sept. 12 F.	Isis	58.2	7.3	16.6	42 7.37	1 45.126			
	Wash. Z. LIV, 17 .	43.7	53.2	2.5	42 53.13	4 43.356	—0 45.76	+ 41.223	
	Isis	25.0	34.4	43.7	43 34.37	1 45.647			
	Wash. Z. LIV, 17 .	10.9	20.2	29.4	19 44 20.17	4 43.852	—0 45.80	+ 41.198	(Continued.)

ISIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δα	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Sept. 12	Isis	53.0	2.3	11.6	19 47 2.30	1 46.065			m. s. Corr. Chron. + 0 18.34 α δ h. m. s. ° ′ ″ Wash. Z. LIV, 17, 22 30 54.12 —27 34 5.09 Isis—Wash. Z. LIV, 17, Δα Δδ h. m. s. m. s. ′ ″ Sid. T. 20 0 21.70 — 0 46.26 +10 31.41 Δρ + .09 + 1.91 p — .32 + 7.45
F.	Wash. Z. LIV, 17 .	38.7	. .	57.5	47 48.10	4 44.191	—0 45.80	+ 41.119	
	Isis	8.2	17.6	27.3	49 17.70	1 46.308			
	Wash. Z. LIV, 17 .	54.4	3.9	12.9	50 3.73	4 44.540	0 46.03	41.225	
	Isis	31.3	40.6	49.9	51 40.60	1 46.508			
	Wash. Z. LIV, 17 .	17.3	26.5	36.2	52 26.67	4 44.773	0 46.07	41.258	
	Isis	11.8	21.2	30.3	54 21.10	1 46.753			
	Wash. Z. LIV, 17 .	57.9	7.3	16.6	55 17.27	4 44.911	0 46.17	41.151	
	Isis	28.8	38.1	47.2	56 38.03	1 46.942			
	Wash. Z. LIV, 17 .	15.1	24.4	33.5	19 57 24.33	4 45.130	0 46.30	41.181	
	Isis	40.9	50.3	59.7	20 0 50.30	1 47.316			
	Wash. Z. LIV, 17 .	27.4	36.6	46.1	1 36.70	4 45.476	0 46.40	41.153	
	Isis	14.4	23.8	33.1	3 23.77	1 47.542			
	Wash. Z. LIV, 17 .	0.7	10.0	19.5	4 10.07	4 45.735	0 46.30	41.186	
	Isis	22.8	32.1	41.6	5 32.17	1 47.762			
	Wash. Z. LIV, 17 .	9.0	18.5	28.0	6 18.50	4 45.911	0 46.33	41.142	
	Isis	49.4	58.8	8.1	8 58.77	1 47.909			
	Wash. Z. LIV, 17 .	35.9	45.1	54.8	9 45.27	4 45.965	0 46.50	41.049	
	Isis	19.2	28.3	37.8	11 28.43	1 48.086			
	Wash. Z. LIV, 17 .	5.7	14.9	24.2	12 14.93	4 46.271	0 46.50	41.178	
	Isis	36.6	45.7	54.9	21 45.73	1 48.719			
	Wash. Z. LIV, 17 .	23.3	32.8	41.7	22 32.60	4 46.770	0 46.87	41.053	
	Isis	57.2	6.3	15.5	24 6.33	1 48.810			
	Wash. Z. LIV, 17 .	43.7	53.1	2.6	20 24 53.13	4 47.040	—0 46.80	+ 41.223	
Sept. 13	Isis	14.7	28.5	42.1	20 51 28.43	1 43.695			m. s. Corr. Chron. + 0 19.01 α δ h. m. s. ° ′ ″ Wash. Z. LIV, 17, 22 30 54.12 —27 34 5.21 Isis—Wash. Z. LIV, 17, Δα Δδ h. m. s. m. s. ′ ″ Sid. T. 21 11 41.49 — 1 25.17 +10 7.33 Δρ + .03 + 1.18 p — .18 + 7.8
H.	Wash. Z. LIV, 17 .	39.4	53.0	6.9	52 53.10	4 40.254	—1 24.67	+ 39.552	
	Isis	5.2	14.3	23.9	54 14.47	1 43.810			
	Wash. Z. LIV, 17 .	29.9	39.2	48.5	55 39.20	4 40.342	1 24.73	39.525	
	Isis	41.9	51.1	0.4	56 51.13	1 43.815			
	Wash. Z. LIV, 17 .	6.6	15.8	25.2	20 58 15.87	4 40.454	1 24.74	39.632	
	Isis	0.4	9.7	19.1	21 0 9.73	1 43.981			
	Wash. Z. LIV, 17 .	25.3	34.6	43.9	1 34.60	4 40.610	1 24.87	39.622	
	Isis	40.5	49.8	59.1	2 49.80	1 44.122			
	Wash. Z. LIV, 17 .	5.4	14.7	24.0	4 14.70	4 40.697	1 24.90	39.568	
	Isis	17.6	26.9	36.3	5 26.93	1 44.265			
	Wash. Z. LIV, 17 .	42.7	51.9	1.2	6 51.93	4 40.830	1 25.00	39.558	
	Isis	56.9	6.1	15.4	9 6.13	1 44.310			
	Wash. Z. LIV, 17 .	21.8	31.0	40.5	10 31.10	4 40.957	1 24.97	39.640	
	Isis	40.6	50.1	59.4	11 50.03	1 44.472			
	Wash. Z. LIV, 17 .	6.0	15.3	24.6	13 15.30	4 41.058	1 25.27	39.579	
	Isis	21.5	30.9	40.2	14 30.87	1 44.418			
	Wash. Z. LIV, 17 .	46.8	56.0	5.4	15 56.07	4 41.086	1 25.20	39.661	
	Isis	55.7	5.0	14.2	17 4.97	1 44.531			
	Wash. Z. LIV, 17 .	21.0	30.2	39.6	18 30.27	4 41.134	1 25.30	39.596	
	Isis	29.7	39.0	48.3	19 39.00	1 44.551			
	Wash. Z. LIV, 17 .	55.0	4.2	13.6	21 4.27	4 41.260	1 25.27	39.702	
	Isis	36.8	45.9	55.1	22 45.93	1 44.720			
	Wash. Z. LIV, 17 .	2.1	11.3	20.7	21 24 11.37	4 41.240	—1 25.44	+ 39.513	

ISIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 13	Isis	33.0	42.2	51.6	21 25 42.27	1 44.767			
	Wash. Z. LIV, 17 .	58.6	7.8	17.2	27 7.87	4 41.373	—1 25.60	+ 39.599	
H.									
	Isis	3.6	12.8	22.2	28 12.87	1 44.868			
	Wash. Z. LIV, 17 .	29.2	38.6	47.9	29 38.57	4 41.500	1 25.70	39.625	
	Isis	35.3	44.7	54.1	30 44.70	1 44.948			
	Wash. Z. LIV, 17 .	1.2	10.5	19.9	21 32 10.53	4 41.545	—1 25.83	+ 39.590	

METIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δα	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Sept. 12	Weisse 0, 826 . .	51.9	59.6	7.9	21 50 59.80	3 43.755			Corr. Chron. + 0 18.31
	Weisse 0, 836 . .	26.5	34.8	42.9	51 34.73	5 48.382			α δ h. m. s. ° ′ ″
	Weisse 0, 845 . .	. .	54.2	2.3	51 54.13	1 48.615	+1 31.77	+ 13.442	
	Metis	17.8	25.7	34.2	53 25.90	1 35.173			Weisse 0, 845, 0 49 10.31 — 4 28 5.88
F.	Weisse 0, 845 . .	0.4	8.8	17.1	55 8.77	3 37.155	1 31.90	13.492	Metis—Weisse 0, 845,
	Metis	32.3	40.6	49.1	56 40.67	2 36.448			Δα Δδ h. m. s. m. s. ′ ″
	Weisse 0, 845 . .	11.1	19.6	27.8	58 19.50	3 37.310	1 31.63	13.446	Sid. T. 22 1 6.40 + 1 31.71 + 3 26.05
	Metis	42.7	51.2	59.5	21 59 51.13	2 36.649			Δρ .00 + .15 p — .23 + 4.44
	Weisse 0, 845 . .	47.4	55.6	4.2	22 0 55.73	3 37.425	1 31.80	13.485	
	Metis	19.1	27.6	35.9	2 27.53	2 36.725			
	Weisse 0, 845 . .	21.6	29.9	38.4	3 29.97	3 37.535	1 31.63	13.475	
	Metis	53.2	1.6	10.0	5 1.60	2 36.845			
	Weisse 0, 845 . .	41.8	50.2	58.6	5 50.20	3 37.520	+1 31.53	+ 13.266	
	Metis	13.5	21.6	30.1	22 7 21.73	2 37.039			m. s. Corr. Chron. + 0 18.98
Sept. 13	Weisse 0, 845 . .	32.4	40.7	49.1	21 49 40.73	3 36.949	+0 48.44	— 6.881	α δ h. m. s. ° ′ ″
	Metis	20.9	29.1	37.5	50 29.17	3 43.830			Weisse 0, 845, 0 49 10.33 — 4 28 5.85
H.	Weisse 0, 845 . .	44.3	52.7	0.9	51 52.63	3 36.998	0 48.34	6.958	Metis—Weisse 0, 845
	Metis	32.7	40.9	49.3	52 40.97	3 43.956			Δα Δδ h. m. s. m. s. ′ ″
	Weisse 0, 845 . .	3.4	11.9	20.1	54 11.80	3 37.081	0 48.23	6.989	Sid. T. 22 11 35.80 + 0 47.75 — 1 51.26
	Metis	51.7	0.0	8.4	55 0.03	3 44.070			Δρ .00 — .09
	Weisse 0, 845 . .	10.9	19.1	27.5	56 19.17	3 37.172	0 48.13	6.984	p — .22 + 4.48
	Metis	59.0	7.2	15.7	57 7.30	3 44.156			
	Weisse 0, 845 . .	17.3	25.6	33.9	58 25.60	3 37.175	0 48.10	7.168	
	Metis	5.5	13.6	22.0	21 59 13.70	3 44.343			
	Weisse 0, 845 . .	28.0	36.3	44.5	22 0 36.27	3 37.320	0 48.06	7.054	
	Metis	16.0	24.3	32.7	1 24.33	3 44.374			
	Weisse 0, 845 . .	20.6	28.9	37.1	3 28.87	3 37.375	0 47.96	7.093	
	Metis	8.6	16.9	25.0	4 16.83	3 44.468			
	Weisse 0, 845 . .	24.2	32.6	14.0	5 32.60	3 37.440	0 47.87	7.177	
	Metis	12.1	20.5	28.8	6 20.47	3 44.617			
	Weisse 0, 845 . .	29.8	38.0	46.3	7 38.03	3 37.480	0.47.84	7.225	
	Metis	17.7	25.8	34.1	8 25.87	3 44.705			
	Weisse 0, 845 . .	27.4	35.7	43.9	9 35.67	3 37.540	0 47.80	7.220	
	Metis	15.1	23.5	31.8	10 23.47	3 44.760			
	Weisse 0, 845 . .	23.0	31.2	39.7	11 31.30	3 37.590	0 47.70	7.260	
	Metis	10.7	19.0	27.3	12 19.00	3 44.850			
	Weisse 0, 845 . .	50.1	58.3	6.6	13 58.33	3 37.672	0 47.77	7.305	
	Metis	37.8	46.1	54.4	14 46.10	3 44.977			
	Weisse 0, 845 . .	58.1	6.2	14.7	15 6.33	3 37.701	0 47.64	7.414	
	Metis	45.7	54.0	2.2	16 53.97	3 45.115			
	Weisse 0, 845 . .	56.9	5.1	13.3	18 5.10	3 37.804	0 47.57	7.361	
	Metis	44.4	52.7	0.9	18 52.67	3 45.165			
	Weisse 0, 845 . .	49.0	57.3	5.7	19 57.33	3 37.804	0 47.40	7.456	
	Metis	36.4	44.8	53.0	20 44.73	2 45.260			
	Weisse 0, 845 .	46.4	54.6	3.0	21 54.67	3 37.857	0 47.36	7.459	
	Metis	33.8	42.0	50.3	22 42.03	3 45.316			
	Weisse 0, 845 . .	31.3	39.5	47.9	24 39.57	3 37.935	0 47.33	7.434	
	Metis	18.7	26.8	35.2	25 26.90	3 45.369			
	Weisse 0 845 . .	25.0	33.3	41.7	26 33.33	3 37.996	+0 47.24	— 7.510	(Continued.)
	Metis . .	12.2	20.6	28.9	22 27 20.57	3 45.506			

METIS.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 13	Weisse 0, 845	40.6	48.8	57.2	22 28 48.87	3 38.080	+0 47.23	— 7.588	
H.	Metis	27.9	36.0	44.4	29 36.10	3 45.668			
	Weisse 0, 845	37.1	45.1	53.5	30 45.23	3 38.142	+0 47.04	— 7.549	
	Metis	24.0	32.2	40.6	22 31 32.27	3 45.691			
Sept. 16	Metis	2.9	11.2	19.4	21 22 11.17	5 47.582			m. s. Corr. Chron. + 0 21.02 α δ h. m. s. ° ′ ″ Weisse 0, 485, 0 49 10.37 + 4 28 5.80 Metis—Weisse 0, 845, Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 21 35 42.80 — 1 29.63 —17 36.30 Δ ρ — .03 — .88 p — .26 + 4.49
F.	Weisse 0, 845	31.9	40.3	48.6	23 40.27	1 38.895	—1 29.10	— 68.688	
	Metis	8.7	17.1	25.6	25 17.13	5 47.730			
	Weisse 0, 845	38.1	46.2	54.7	26 46.33	1 39.042	1 29.20	68.689	
	Metis	31.8	40.4	48.5	28 40.23	5 47.995			
	Weisse 0, 845	1.2	9.5	18.0	30 9.57	1 39.252	1 29.34	68.744	
	Metis	13.8	21.9	30.5	31 22.07	5 48.110			
	Weisse 0, 845	43.2	51.5	0.0	32 51.57	1 39.393	1 29.50	68.718	
	Metis	57.3	5.4	14.0	34 5.57	5 48.367			
	Weisse 0, 845	26.7	35.1	43.5	35 35.10	1 39.450	1 29.53	68.918	
	Metis	16.9	25.4	33.6	37 25.30	5 48.559			
	Weisse 0, 845	46.6	55.1	3.5	38 55.07	1 39.668	1 29.77	68.892	
	Metis	50.5	58.7	7.2	39 58.80	5 48.623			
	Weisse 0, 845	20.3	28.5	37.1	41 28.63	1 39.681	1 29.83	68.943	
	Metis	22.6	31.0	39.6	42 31.07	5 48.763			
	Weisse 0, 845	52.5	0.8	9.4	44 0.90	1 39.792	1 29.83	68.972	
	Metis	5.9	14.4	22.9	45 14.40	5 48.920			
	Weisse 0, 845	36.2	44.3	52.9	46 44.47	1 39.862	1 30.07	69.059	
	Metis	43.7	52.0	0.4	47 52.03	5 49.048			
	Weisse 0, 845	13.9	22.1	30.6	21 49 22.20	1 39.975	—1 30.17	— 69.074	
Sept. 17	Metis	42.3	. .	6.8					m. s. Corr. Chron. + 0 21.62 α δ h. m. s. ° ′ ″ Weisse 0, 836, 0 48 51.26 —4 43 25.61 Metis—Weisse 0, 836, Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 22 5 27.82 — 1 59.72 — 7 43.12 Δ ρ — .01 — .31 p — .23 + 4.56
		46.2	54.6	3.0	21 57 54.58	4 43.284			
	Weisse 0, 836	41.8	. .	6.3					
		45.7	53.9	2.2	21 59 53.98	2 39.090	—1 59.40	— 30.056	
H.	Metis	13.6	. .	38.0					
		17.5	25.8	34.2	22 1 25.82	4 43.534			
	Weisse 0, 836	13.3	. .	37.7					
		17.1	25.4	33.7	3 25.44	2 39.234	1 59.62	30.162	
	Metis	28.0	. .	52.2					
		31.9	40.0	48.3	4 40.08	4 43.614			
	Weisse 0, 836	27.7	. .	52.0					
		31.4	39.8	48.0	6 39.78	2 39.387	1 59.70	30.089	
	Metis	42.7	. .	7.1					
		46.5	54.8	3.2	7 54.86	4 43.807			
	Weisse 0. 836	42.5	. .	7.0					
		46.3	54.6	3.0	9 54.68	2 39.442	1 59.82	30.227	
	Metis	23.4	. .	47.9					
		27.3	35.6	44.0	13 35.64	4 44.278			
	Weisse 0, 836	23.5	. .	47.9					
		27.4	35.7	44.0	22 15 35.70	2 39.700	—1 60.06	— 30.440	

ATALANTA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		$\Delta \alpha$	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Sept. 16	Oeltzen S. 21903	26.0	. .	52.8					Corr. Chron. + 0 21.05
		30.3	39.6	48.7	22 14 39.48	2 43.621	+0 6.99	— 23.381	α δ
	Atalanta . . .	. .	. .	0.2					h. m. s. ° ′ ″
F.		37.4	46.5	55.5	14 46.47	4 41.140			Oeltzen S. 21903, 22 0 12.77 —25 21 4.20
	Oeltzen S. 21903	11.2	. .	38.0					Atalanta—Oeltzen S. 21903,
		15.6	24.5	33.6	16 24.58	2 43.239	0 7.12	23.485	$\Delta \alpha$ $\Delta \delta$
	Atalanta . . .	18.6	. .	45.1					h. m. s. m. s. ′ ″
		22.6	31.6	40.6	16 31.70	4 40.862			Sid. T. 22 24 6.40 + 0 6.71 — 6 00.11
	Oeltzen S. 21903	20.9	. .	47.6					$\Delta \rho$ .00 — .53
		25.4	34.6	43.5	18 34.40	2 43.298	0 6.96	23.419	p — .04 + 5.82
	Atalanta . . .	27.9	. .	54.6					
		32.5	41.4	50.4	18 41.36	4 40.855			
	Oeltzen S. 21949	29.2	. .	56.1					
		33.4	42.8	51.8	21 42.66	3 34.865			
	Oeltzen S. 21903	40.0	. .	7.0					
		44.4	. .	2.5	32 53.47	2 43.837	0 6.25	23.456	
	Atalanta . . .	46.1	. .	13.2					
		50.9	59.6	8.8	32 59.72	4 41.431			
	Oeltzen S. 21903	27.8	. .	54.6					
		32.6	41.2	50.2	35 41.28	2 43.320	+0 6.22	— 23.654	
	Atalanta . . .	34.5							
		38.4	47.4	. .	22 35 47.50	4 41.112			
Sept. 17	Atalanta . . .	27.4	36.6	45.5	20 49 36.50	3 32.948			m. s.
H.	Oeltzen S. 21903 .	15.9	24.9	33.9	50 24.90	3 38.447	—0 48.40	+ 5.499	Corr. Chron. + 0 21.59
	Atalanta . . .	37.0	46.0	55.0	51 46.00	3 32.956			α δ h. m. s. ° ′ ″
	Oeltzen S. 21903 .	25.4	34.6	43.7	52 34.57	3 38.459	0 48.57	5.503	Oeltzen S. 21903, 22 0 12.77 —25 21 4.30
	Atalanta . . .	33.9	43.0	52.2	53 43.03	3 32.886			Atalanta—Oeltzen S. 21903,
	Oeltzen S. 21903 .	22.4	31.4	40.7	54 31.50	3 38.552	0 48.47	5.666	$\Delta \alpha$ $\Delta \delta$ h. m. s. m. s. ′ ″
	Atalanta . . .	36.3	45.3	54.4	55 45.33	3 32.974			Sid. T. 21 6 35.44 — 0 49.08 + 1 30.97
	Oeltzen S. 21903 .	25.0	33.8	43.0	56 33.93	3 38.630	0 48.60	5.656	$\Delta \rho$ .00 + .11
	Atalanta . . .	41.2	50.6	59.4	57 50.40	3 32.822			p .08 + 5.75
	Oeltzen S. 21903 .	29.9	39.0	48.0	20 58 38.97	3 38.670	0 48.57	5.848	
	Atalanta . . .	10.1	19.1	28.1	21 2 19.10	3 32.955			
	Oeltzen S. 21903 .	59.1	8.0	17.2	3 8.10	3 38.668	0 49.00	5.713	
	Atalanta . . .	26.4	35.5	44.3	4 35.40	3 32.932			
	Oeltzen S. 21903 .	15.4	24.6	33.6	5 24.53	3 38.847	0 49.13	5.915	
	Atalanta . . .	37.9	47.0	56.0	6 46.97	3 32.931			
	Oeltzen S. 21903 .	27.1	36.1	45.3	7 36.17	3 38.824	0 49.20	5.893	
	Atalanta . . .	32.1	41.0	50.2	8 41.10	3 32.903			
	Oeltzen S. 21903 .	21.1	30.1	39.3	9 30.17	3 38.824	0 49.07	5.921	
	Atalanta . . .	33.4	42.5	51.5	11 42.47	3 32.970			
	Oeltzen S. 21903 .	22.7	31.8	41.0	12 31.83	3 38.980	0 49.36	6.010	
	Atalanta . . .	46.6	56.2	5.2	13 56.00	3 32.960			
	Oeltzen S. 21903 .	36.5	45.4	54.3	14 45.40	3 39.025	0 49.40	6.065	
	Atalanta . . .	47.9	57.0	6.1	15 57.00	3 32.880			
	Oeltzen S. 21903 .	37.2	46.2	55.6	16 46.33	3 39.050	0 49.33	6.170	
	Atalanta . . .	47.8	56.8	6.0	17 56.87	3 32.860			
	Oeltzen S. 21903 .	37.3	46.4	55.4	18 46.37	3 39.177	0 49.50	6.317	
	Atalanta . . .	49.1	58.3	7.3	19 58.23	3 32.770			
	Oeltzen S. 21903 .	39.0	48.1	56.8	20 47.97	3 39.200	0 49.74	6.430	
	Atalanta . . .	44.1	53.1	2.3	22 53.17	3 32.815			
	Oeltzen S. 21903 .	34.1	42.9	52.0	21 23 43.00	3 39.180	—0 49.83	+ 6.365	

ATALANTA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1864.	Atalanta . . .	2.3	.	28.6					Corr. Chron. + 0 22.92
Sept. 19		6.2	15.3	24.0	21 23 15.28	1 32.392			α δ
F.	Oeltzen S. 21903	. .	. .	11.6					h. m. s. ° ′ ″
		. .	57.8	7.2	25 58.21	5 43.891	−2 42.93	+ 71.500	Oeltzen S. 21903, 22 0 12.76 −25 21 4.48
	Atalanta . . .	45.9	. .	12.5					Atalanta—Oeltzen S. 21903,
		49.9	58.9	8.4	29 59.12	1 32.292			Δ α Δ δ
	Oeltzen S. 21903	28.7	. .	55.4					h. m. s. m. s. ′ ″
		33.1	41.8	51.0	32 42.00	5 43.724	2 42.88	71.433	Sid. T. 21 45 27.37 — 2 43.48 +18 24.18
	Atalanta . . .	59.6	. .	26.3					Δρ .00 + 1.57
		3.8	12.7	22.2	35 12.92	1 37.100			p — .02 + 5.78
	Oeltzen S. 21903	42.6	. .	9.5					
		47.2	55.7	5.1	37 56.02	5 48.731	2 43.10	71.632	
	Atalanta . . .	19.1	. .	45.7					
		23.4	32.3	41.5	42 32.40	1 37.202			
	Oeltzen S. 21903	2.3	. .	29.4					
		6.7	15.5	25.1	45 15.80	5 48.883	2 43.40	71.682	
	Atalanta . . .	55.7	. .	22.3					
		59.8	8.9	18.1	48 8.96	1 36.865			
	Oeltzen S. 21903	39.3	. .	6.1					
		43.3	52.5	1.6	50 52.56	5 49.023	2 43.60	72.159	
	Atalanta . . .	12.5	. .	39.1					
		16.3	25.6	35.0	55 25.70	1 36.871			
	Oeltzen S. 21903	55.5	. .	23.1					
		0.0	9.6	18.8	21 58 9.40	5 49.151	2 43.70	72.281	
	Atalanta . . .	1.7	. .	28.4					
		6.2	14.5	23.9	22 0 14.94	1 36.638			
	Oeltzen S. 21903	45.8	. .	12.4					
		49.8	58.8	8.2	2 59.00	5 49.255	2 44.06	72.618	
	Atalanta . . .	33.0	. .	59.6					
		37.3	46.3	55.2	5 46.28	1 36.465			
	Oeltzen S. 21903	17.3	. .	44.1					
		21.3	30.5	39.3	22 8 30.50	5 49.110	−2 44.22	+ 72.646	

HARMONIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Sept. 24	Harmonia . . .	28.9	37.3	45.3	22 26 37.17	4 45.574			m. s. Corr. Chron. + 0 41.48 α δ h. m. s. ° ′ ″ Weisse I, 389, 1 23 36.63 + 0 39 47.43 Harmonia—Weisse I, 389, Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 22 34 48.75 — 0 6.79 —10 6.86 Δ ρ + .01 — .36 p — .25 + 4.53
	Weisse I, 389 . .	35.3	43.6	52.0	26 43.63	1 49.180	—0 6.46	— 39.387	
H.	Harmonia . . .	30.3	38.3	46.7	28 38.43	4 45.670			
	Weisse I, 389 . .	36.9	45.1	53.3	28 45.10	1 49.193	0 6.67	39.470	
	Harmonia . . .	27.2	35.4	43.7	31 35.43	4 45.768			
	Weisse I, 389 . .	33.9	42.1	50.4	31 42.13	1 49.215	0 6.70	39.546	
	Harmonia . . .	11.6	19.8	28.0	33 19.80	4 45.915			
	Weisse I, 389 . .	18.2	26.5	34.8	33 26.50	1 49.323	0 6.70	39.585	
	Harmonia . . .	22.6	30.9	39.1	36 30.87	4 45.895			
	Weisse I, 389 . .	29.4	37.8	46.0	36 37.73	1 49.308	0 6.86	39.580	
	Harmonia . . .	49.5	57.9	6.0	38 57.80	4 46.093			
	Weisse I, 389 . .	56.7	4.7	13.2	39 4.87	1 49.372	0 7.07	39.714	
	Harmonia . . .	3.6	11.8	20.1	43 11.83	4 46.310			
	Weisse I, 389 . .	10.6	19.0	27.1	22 43 18.90	1 49.615	—0 7.07	— 39.688	
Oct. 17	Weisse 0, 1041 .	38.4 42.5	. . 50.6	3.0 59.1	21 42 50.72	4 32.210	+2 36.96	— 14.885	m. s. Corr. Chron. + 1 2.86 α δ h. m. s. ° ′ ″ Weisse 0, 1041, 0 59 32.00 — 1 28 10.40 Weisse 0, 1054, 1 0 12.39 — 1 18 41.82 Harmonia—Weisse 0, 1041, Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 22 10 39.71 + 2 35.98 — 3 52.32 Δ ρ .00 — .15 p — .25 + 4.63 Harmonia—Weisse 0, 1054, h. m. s. Sid. T. 22 10 39.71 + 1 56.62 —13 21.68 Δ ρ — .02 — .52 p — .25 + 4.65
	Weisse 0, 1054 .	17.9 21.6	. . 30.1	42.3 38.5	43 30.08	1 38.199	1 57.60	51.889	
	Harmonia . . .	15.8 19.3	. . 27.6	39.8 35.9	45 27.68	4 47.095			
F.	Weisse 0, 1041 .	52.3 55.8	. . 3.9	16.4 12.2	48 4.12	4 32.273	2 36.66	14.899	
	Weisse 0, 1054 .	. . . .	. . 43.5	55.5 51.7	48 43.34	1 38.200	1 57.44	51.965	
	Harmonia . .	28.6 32.5	. . 40.6	53.1 49.1	50 40.78	4 47.172			
	Weisse 0, 1041 .	4.7 8.5	. . 16.8	29.1 24.8	53 16.78	3 45.732	2 36.52	14.937	
	Weisse 0, 1054 .	. . . .	. . 55.9	8.4 4.4	54 56.11	1 38.470	1 57.19	52.115	
	Harmonia . .	41.1 45.1	. . 53.2	5.6 1.5	55 53.30	4 47.592			
	Weisse 0, 1041 .	13.4 17.3	. . 25.6	37.8 33.8	57 25.58	3 45.713	2 36.38	15.254	
	Weisse 0, 1054 .	. . . .	. . 4.7	16.9 13.1	21 58 4.55	1 38.612	1 57.41	52.271	
	Harmonia . .	49.8 53.8	. . 1.9	14.1 10.2	22 0 1.96	4 47.890			
	Weisse 0, 1041 .	13.0 16.7	. . 24.8	37.2 33.3	1 25.00	3 46.118	2 36.38	14.981	
	Weisse 0, 1054 .	51.7 56.3	. . 4.6	16.6 13.0	2 4.44	1 38.885	1 56.94	52.130	
	Harmonia . .	49.5 53.1	. . 1.2	13.5 9.6	4 1.38	4 48.022			
	Weisse 0, 1041 .	42.9 46.6	. . 54.8	7.0 3.1	12 54.88	3 46.240	2 35.72	15.247	
	Weisse 0, 1054 .	22.2 26.2	. . 34.3	46.5 42.7	13 34.38	1 38.901	1 56.22	52.502	
	Harmonia . .	18.4 22.4	. . 30.6	42.6 39.0	15 30.60	4 48.410			
	Weisse 0, 1041 .	45.6 49.7	. . 58.3	10.1 6.2	16 57.98	3 36.349	2 35.56	15.319	
	Weisse 0, 1054 .	25.3 29.3	. . 37.4	49.5 45.9	17 37.48	1 39.149	+1 56.06	— 52.435	
	Harmonia .	21.6 25.3	. . 33.5	45.6 41.7	22 19 33.54	4 48.591			(Continued.)

HARMONIA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.	
		A.	B.	C.	Mean.		Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 17	Weisse 0, 1041 .	59.6 3.5	. . 11.6	24.0 19.9	22 21 11.72	3 46.473	+2 35.34	— 15.242
	Weisse 0, 1054 .	39.1 42.7	. . 51.0	3.1 59.3	21 51.04	1 39.400	1 56.02	52.231
	Harmonia . .	35.0 38.8	. . 46.9	59.3 55.3	23 47.06	4 48.638		
F.	Weisse 0, 1041 .	12.6 16.5	. . 24.7	37.0 33.1	25 24.78	3 46.710	2 35.18	15.356
	Weisse 0, 1054 .	51.9 55.8	. . 4.3	16.3 12.3	26 4.12	1 39.445	1 55.84	52.537
	Harmonia . .	47.7 51.6	. . 0.0	12.3 8.2	27 59.96	4 48.989		
	Weisse 0, 1041 .	25.3 28.9	. . 37.1	49.4 45.2	30 37.18	3 46.760	2 35.08	15.352
	Weisse 0, 1054 .	4.7 8.6	. . 16.5	28.9 25.0	31 16.74	1 39.441	+1 55.52	— 52.627
	Harmonia . .	0.0 4.0	. . 12.2	24.5 20.6	22 33 12.26	4 49.075		
Oct. 18	Weisse 0, 1041 . .	0.0	8.4	16.6	20 55 8.33	2 31.126	+1 43.57	— 29.810
	Harmonia . . .	43.7	51.8	0.2	56 51.90	4 35.074		
H.	Weisse 0, 1041 . .	59.6	7.8	16.0	57 7.80	2 31.148	1 43.40	29.899
	Harmonia . . .	43.0	51.2	59.4	20 59 51.20	4 35.185		
	Weisse 0, 1041 . .	45.1	53.4	2.0	21 1 53.50	2 31.553	1 43.03	29.774
	Harmonia . . .	28.2	36.6	44.8	3 36.53	4 35.465		
	Weisse 0, 1041 . .	29.7	38.0	46.3	4 38.00	2 31.697	1 42.80	29.816
	Harmonia . . .	12.6	20.7	29.1	6 20.80	4 35.651		
	Weisse 0, 1041 . .	41.0	49.2	57.5	7 49.23	2 31.854	1 42.64	29.958
	Harmonia . . .	23.6	31.9	40.1	9 31.87	4 35.950		
	Weisse 0, 1041 . .	25.6	33.9	42.1	11 33.87	2 32.061	1 42.50	30.019
	Harmonia . . .	8.1	16.3	24.7	13 16.37	4 36.218		
	Weisse 0, 1041 . .	19.1	27.4	35.7	14 27.40	2 32.073	1 42.30	30.267
	Harmonia . . .	1.4	9.6	18.1	16 9.70	4 36.478		
	Weisse 0, 1041 . .	53.0	1.2	9.4	17 1.20	2 32.298	1 42.37	30.012
	Harmonia . . .	35.3	43.5	51.9	18 43.57	4 36.448		
	Weisse 0, 1041 . .	30.5	38.3	47.0	20 38.60	2 32.474	1 42.43	30.103
	Harmonia . . .	12.9	21.0	29.2	21 21.03	4 36.715		
	Weisse 0, 1041 . .	11.2	19.4	27.7	23 19.43	2 32.500	1 42.17	30.284
	Harmonia . . .	53.3	1.6	9.9	24 1.60	4 36.922		
	Weisse 0, 1041 . .	47.9	56.0	4.6	25 56.17	2 32.760	1 42.10	30.184
	Harmonia . . .	30.0	38.2	46.6	27 38.27	4 37.082		
	Weisse 0, 1041 . .	30.8	39.0	47.3	28 39.03	2 32.851	+1 41.94	— 30.128
	Harmonia . . .	12.5	21.1	29.3	21 30 20.97	4 37.117		

RESULTS.

		α (h. m. s.)	δ (° ′ ″)
Corr. Chron.		+ 1 4.23 (m. s.)	
Weisse 0, 1041,		0 39 32.01	— 1 28 10.43

Harmonia—Weisse 0, 1041,

	h. m. s.	Δ α (m. s.)	Δ δ (′ ″)
Sid. T.	21 15 2.88	+ 1 42.60	— 7 40.43
Δ ρ		— .02	— .44
p		— .31	+ 4.60

ECHO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 7	Weisse II, 31	40.2 44.3	. . 52.9	5.4 1.3	22 42 52.82	4 35.364			m. s. Corr. Chron. + 0 49.28
	Weisse II, 56	. . 46.6	. . 55.0	7.5 3.7	43 55.04	4 35.751			α δ h. m. s. ° ′ ″ Weisse II, 61, 2 5 36.98 +11 13 32.7
	Weisse II, 61	. . . .	. . 13.3	25.8 21.7	44 13.37	4 41.011	+1 37.53	+ 22.623	Echo—Weisse II, 61,
	Echo	38.6 42.5	. . 50.8	3.4 59.2	45 50.90	3 31.465			Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 22 11 25.78 + 1 36.84 + 5 38.33
F.	Weisse II, 61	44.1 48.1	. . 56.6	9.1 5.2	54 56.62	4 41.240	1 37.20	22.322	Δ ρ — .01 + .20 p — .32 + 3.74
	Echo	. . . .	. . 33.7	46.4 42.4	56 33.82	2 44.780			
	Weisse II, 61	13.2 16.8	. . 25.4	27.5 33.6	22 59 25.36	4 41.393	1 37.26	22.097	
	Echo	50.2 54.2	. . 2.7	14.8 11.2	23 1 2.62	2 45.158			
	Weisse II, 61	6.2 10.4	. . 18.6	31.0 27.2	2 18.68	4 41.472	1 37.06	22.201	
	Echo	43.5 47.4	. . 55.7	8.0 4.1	3 55.74	2 45.133			
	Weisse II, 61	44.7 48.4	. . 56.8	9.3 5.3	7 56.90	4 41.672	1 36.84	22.184	
	Echo	21.4 25.4	. . 33.6	46.3 42.0	9 33.74	2 45.350			
	Weisse II, 61	40.3 44.3	. . 52.5	5.1 1.2	10 52.68	4 41.759	1 36.54	22.073	
	Echo	16.8 20.9	. . 29.2	41.5 37.7	12 29.22	2 45.548			
	Weisse II, 61	7.6 11.6	. . 20.0	32.7 28.5	14 20.08	4 41.799	1 36.72	22.000	h. 22 1
	Echo	44.6 48.4	. . 56.6	9.3 5.1	15 56.80	2 45.661			
	Weisse II, 61	4.8 8.6	. . 17.0	29.5 25.3	17 17.04	4 41.929	1 36.74	21.952	
	Echo	41.1 45.6	. . 53.6	6.4 2.2	18 53.78	2 45.839			
	Weisse II, 61	32.0 35.8	. . 44.2	56.6 52.6	21 44.24	4 41.949	1 36.35	21.631	
	Echo	. . . .	. . . .	33.2 28.7	23 20.59	2 46.180			
	Weisse II, 61	39.4 43.2	. . 51.8	4.1 0.1	36 51.72	4 42.102	+1 36.12	+ 21.502	
	Echo	15.5 19.4	. . 27.7	40.4 36.2	23 38 27.84	2 46.462			m. s. Corr. Chron. + 0 50.64
Oct. 8	Weisse II, 61	14.7	23.2	. .	21 59 23.38	2 42.885	+0 54.65	— 2.025	α δ h. m. s. ° ′ ″
	Echo	9.5	17.7	26.9	21 0 18.03	2 44.910			Weisse II, 61, 2 5 36.99 +11 13 32.84
F.	Weisse II, 61	1.8	10.2	18.6	22 9 10.20	2 43.311	0 54.50	2.011	
	Echo	56.4	4.7	13.0	10 4.70	2 45.322			Echo—Weisse II, 61,
	Weisse II, 61	9.1	17.5	25.9	12 17.50	2 43.325	0 54.30	2.100	Δ α Δ δ h. m. s. m. s. ′ ″
	Echo	3.4	11.7	20.3	13 11.80	2 45.425			Sid. T. 22 22 2.13 + 0 54.11 — 0 34.29
	Weisse II, 61	55.8	4.3	12.7	15 4.27	2 43.660	0 54.53	1.950	Δ ρ .00 — .02 p — .31 + 3.72
	Echo	50.3	58.8	7.3	15 58.80	2 45.610			
	Weisse II, 61	49.3	57.5	5.8	16 57.53	2 43.632	0 54.40	2.162	
	Echo	43.5	51.8	0.5	17 51.93	2 45.795			
	Weisse II, 61	36.5	45.2	53.3	18 45.00	2 43.810	+0 53.93	— 2.169	
	Echo	30.5	38.9	47.4	22 19 38.93	2 45.979			(Continued.)

ECHO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 8 F.	Weisse II, 61 . .	20.4	28.7	37.3	22 20 28.80	2 43.765	+0 54.30	— 2.195	
	Echo	14.6	23.2	31.5	21 23.10	2 45.960			
	Weisse II, 61 . .	52.1	0.3	8.8	23 0.40	2 43.900	0 54.13	2.435	
	Echo	46.2	54.4	3.0	23 54.53	2 46.335			
	Weisse II, 61 . .	28.7	36.9	45.5	25 37.03	2 44.061	0 53.80	2.296	
	Echo	22.4	30.6	39.5	26 30.83	2 46.357			
	Weisse II, 61 . .	32.1	40.6	49.4	27 40.70	2 44.181	0 53.67	2.352	
	Echo	25.8	34.4	42.9	28 34.37	2 46.533			
	Weisse II, 61 . .	24.4	32.8	41.6	29 32.93	2 44.121	0 53.87	2.420	
	Echo	18.3	26.8	35.3	30 26.80	2 46.541			
	Weisse II, 61 . .	11.3	19.6	28.1	31 19.67	2 44.310	0 53.73	2.356	
	Echo	5.1	13.2	21.9	32 13.40	2 46.666			
	Weisse II, 61 . .	20.2	28.6	37.1	34 28.63	2 44.222	+0 53.60	— 2.598	
	Echo	13.8	22.3	30.6	22 35 22.23	2 46.820			
Oct. 10 F.	Echo	53.5	. .	10.3	23 17 1.90	5 33.910			m. s. Corr. Chron. + 0 53.50
	Weisse II, 61 . .	33.3	41.7	50.3	17 41.77	1 39.220	—0 39.87	— 54.691	α δ h. m. s. ° ′ ″
	Echo	53.5	2.2	10.3	19 2.00	5 34.032			Weisse II, 61, 2 5 37.02 +11 13 32.93
	Weisse II, 61 . .	33.3	41.8	50.5	19 41.87	1 39.200	0 39.87	54.833	Echo—Weisse II, 61,
	Echo	50.3	58.8	7.6	20 58.90	5 34.039			Δ α Δ δ
	Weisse II, 61 . .	30.4	38.6	47.4	21 38.80	1 39.262	0 39.90	54.778	h. m. s. m. s. ′ ″ Sid. T. 23 20 49.85 — 0 39.89 —14 0.14
	Echo	34.1	42.5	51.2	22 42.60	5 34.188			Δ ρ — .01 — .34
	Weisse II, 61 . .	14.1	22.4	31.1	23 23 22 53	1 39.381	—0 39.93	— 54.808	p — .25 + 3.55
Oct. 11 F.	Echo	52.2 55.8	. . 3.9	16.8 12.6	21 51 4.26	5 47.075			m. s. Corr. Chron. + 0 54.72
	Weisse II, 61 .	16.2 20.7	. . 28.8	41.3 37.5	52 28.90	1 27.469	—1 24.64	— 79.607	α δ h. m. s. ° ′ ″ Weisse II, 61, 2 5 37.03 +11 13 32.98
	Echo	4.1 7.8	. . 16.5	28.9 24.7	54 16.40	5 47.231			Echo—Weisse II, 61,
	Weisse II, 61	28.7 32.4	. . . .	53.5 49.7	21 55 41.07	1 27.599	1 24.67	79.633	Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 22 23 49.95 — 1 25.58 —20 31.05
	Echo	1.5 5.2	. . 13.5	25.9 21.8	22 17 13.58	5 49.989			Δ ρ — .02 — .67 p — .31 + 3.77
	Weisse II, 61 .	26.7 30.5	. . 38.8	51.2 47.3	18 38.90	1 29.865	1 25.32	80.125	
	Echo	31.2 35.1	. . 43.3	55.5 51.5	21 43.32	5 50.282			
	Weisse II, 61 .	56.3 0.4	. . 8.7	21.1 17.2	23 8.74	1 29.920	1 25.42	80.363	
	Echo	25.4 29.3	. . 37.5	50.1 46.1	25 37.68	5 50.305			
	Weisse II, 61 .	51.0 54.7	. . 3.1	15.5 11.5	27 3.16	1 29.979	1 25.48	80.327	
	Echo	51.1 55.3	. . 3.5	16.0 12.2	29 3.62	5 50.499			
	Weisse II, 61 .	17.1 21.1	. . 29.4	42.0 38.2	30 29.56	1 30.042	1 25.94	80.458	
	Echo	57.0 0.5	. . 8.9	21.2 17.2	32 8.96	5 50.770			
	Weisse II, 61 .	22.5 26.3	. . 34.7	47.2 43.2	33 34.78	1 30.260	1 25.82	80.511	
	Echo	42.2 46.1	. . 54.3	6.8 2.6	35 54.40	5 50.795			
	Weisse II, 61 .	7.9 12.1	. . 20.5	32.7 28.9	22 37 20.42	1 30.315	—1 26.02	— 80.481	(Continued.)

ECHO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Oct. 11 F.	Echo	39.5 43.7	. . 51.7	4.4 0.4	22 38 51.94	5 50.950			
	Weisse II, 61 .	5.5 9.7	. . 18.1	30.5 26.6	40 18.08	1 30.460	—1 26.14	— 80.491	
	Echo	5.9 9.6	. . 18.4	30.4 26.5	43 18.16	5 51.261			
	Weisse II, 61 .	32.6 35.9	. . 44.2	56.9 53.1	22 44 44.54	1 30.601	—1 26.38	— 80.661	
Oct. 20 H.	Echo	37.6 41.6	. . 50.0	2.4 58.5	22 43 50.02	3 36.555			m. s. Corr. Chron. + 1 7.10
	Weisse I, 1045 .	45.7 49.7	. . 58.0	10.2 6.3	46 57.98	3 31.497	—3 7.96	— 5.058	α δ h. m. s. ° ′ ″ Weisse I, 1045, 1 59 30.35 + 9 49 59.65
	Echo	14.5 18.2	. . 26.6	39.1 35.0	48 26.68	3 36.714			Echo—Weisse I, 1045,
	Weisse I, 1045 .	22.5 26.3	. . 34.7	47.1 43.0	51 34.72	3 31.633	3 8.04	5.081	Δα Δδ h. m. s. m. s. ′ ″ Sid. T. 23 6 57.96 — 3 8.84 — 1 22.74 Δρ .00 — .04 p — .26 + 3.75
	Echo	32.0 35.9	. . 44.3	56.6 52.6	53 44.28	3 36.924			
	Weisse I, 1045. .	40.2 44.3	. . 52.6	4.9 0.9	56 52.58	3 31.752	3 8.30	5.172	
	Echo	32.2 36.0	. . 44.5	57.0 53.0	22 58 44.54	3 37.226			
	Weisse I, 1045 .	40.9 44.8	. . 53.1	5.4 1.4	23 1 53.12	3 31.781	3 8.58	5.445	
	Echo	11.9 15.7	. . 23.8	36.3 32.4	3 24.02	3 37.380			
	Weisse I, 1045 .	20.6 24.5	. . 33.0	45.0 41.0	6 32.82	3 32.043	3 8.80	5.337	
	Echo	2.1 6.1	. . 14.4	26.6 22.7	8 14.38	3 37.598			
	Weisse I, 1045 .	11.2 15.1	. . 23.3	35.6 31.7	11 23.38	3 32.214	3 9.00	5.384	
	Echo	23.1 27.5	. . 35.7	48.3 44.6	13 35.84	3 37.784			
	Weisse I, 1045 .	32.8 36.7	. . 45.2	57.3 53.5	16 45.10	3 32.373	3 9.26	5.411	
	Echo	47.8 51.8	. . 0.0	12.6 8.4	18 0.12	3 38.005			
	Weisse I, 1045 .	57.2 1.1	. . 9.2	21.7 17.8	21 9.40	3 32.476	3 9.28	5.529	
	Echo	28.0 32.0	. . 40.1	52.4 48.5	22 40.20	3 38.269			
	Weisse I, 1045 .	37.4 41.3	. . 49.7	2.0 58.1	25 49.70	3 32.590	3 9.50	5.679	
	Echo	36.3 40.2	. . 48.5	1.0 56.8	27 48.56	3 38.558			
	Weisse I, 1045 .	45.9 49.9	. . 58.2	10.4 6.7	23 30 58.22	3 32.705	—3 9.66	— 5.853	m. s. Corr. Chron. + 1 13.76
Oct. 25 H.	Weisse I, 880 .	1.3 5.3	. . 13.6	25.9 22.0	23 31 13.62	3 37.387	+1 24.78	— 8.253	α δ h. m. s. ° ′ ″
	Echo	26.0 30.1	. . 38.5	50.6 46.8	32 38.40	3 45.640			Weisse I, 880, 1 50 19.42 + 9 13 32.43 Echo—Weisse I, 880,
	Weisse I, 880 . .	47.2 51.1	. . 59.4	11.7 7.8	33 59.44	3 37.404	1 24.70	8.473	Δα Δδ h. m. s. m. s. ′ ″ Sid. T. 23 47 37.90 + 1 24.23 — 2 11.41
	Echo	11.7 15.7	. . 24.1	36.7 32.5	35 24.14	3 45.877			Δρ .00 — .06 p — .20 + 3.75
	Weisse I, 880 .	45.0 49.1	. . 57.5	9.9 5.8	36 57.46	3 37.403	+1 24.64	— 8.487	
	Echo	9.8 13.8	. . 22.0	34.4 30.5	23 38 22.10	3 45.890			(Continued.)

ECHO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Oct. 25 H.	Weisse I, 880	27.0 30.9	. . 39.2	51.6 47.7	23 39 39.28	3 37.516	+1 24.22	— 8.434	
	Echo	51.3 55.3	. . 3.4	15.7 11.8	41 3.50	3 45.950			
	Weisse I, 880	59.9 3.7	. . 12.0	24.5 20.5	43 12.12	3 37.617	1 24.26	8.544	
	Echo	24.1 28.0	. . 36.4	48.7 44.7	44 36.38	3 46.161			
	Weisse I, 880	42.3 46.1	. . 54.6	7.0 3.0	45 54.60	3 37.700	1 24.34	8.595	
	Echo	6.6 10.6	. 18.9	31.2 27.4	47 18.94	3 46.295			
	Weisse I, 880	36.4 40.4	. . 48.7	1.1 57.2	48 48.76	3 37.719	1 24.22	8.603	
	Echo	0.7 4.8	. . 12.8	25.2 21.4	50 12.98	3 46.322			
	Weisse I, 880	14.2 18.1	. . 26.6	38.9 35.0	52 26.56	3 37.716	1 23.84	8.730	
	Echo	38.1 42.0	. . 50.4	2.7 58.8	53 50.40	3 46.446			
	Weisse I, 880	5.9 9.9	. . 18.1	30.4 26.3	57 18.12	3 38.147	1 23.76	8.758	
	Echo	29.6 33.6	. . 41.9	54.1 50.2	23 58 41.88	3 46.905			
	Weisse I, 880	16.8 20.8	. . 29.2	41.5 37.5	0 0 29.16	3 38.218	+1 23.52	— 8.800	
	Echo	40.4 44.2	. . 52.6	5.1 1.1	0 1 52.68	3 47.018			
Oct. 31 F.	Echo	39.2 42.7	. . 51.6	3.6 . .	0 8 51.50	4 44.149			m. s. Corr. Chron. + 1 25.03
	Weisse I, 820	45.1 49.6	. . 57.8	10.6 6.4	8 57.90	2 41.229	—0 6.40	— 28.782	α δ h. m. s. ° ′ ″ Weisse I, 820, 1 46 22.19 + 8 35 12.41
	(* 9.5)	12.5 15.8	. . 24.4	36.5 32.8	9 24.40	2 42.880			Echo—Weisse I, 820,
	Rumker 973, N. F.	6.5 10.1	. . 18.5	30.9 26.9	10 18.58	3 43.761			Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 0 16 30.92 — 0 6.93 — 7 21.88
	(* 9)	17.5 21.2	. . 29.4	42.1 38.1	10 29.66	2 46.395			Δ ρ .00 — .18 p — .15 + 3.76
	Echo	7.8 12.1	. . 20.1	32.6 28.8	21 20.28	4 44.677			
	Weisse I, 820	15.2 19.3	. . 27.6	39.8 36.8	0 21 27.74	2 41.698	—0 7.46	— 28.841	
Nov. 4 F.	Echo	2.6 6.3	. . 14.4	26.9 22.8	22 30 14.60	2 39.242			m. s. Corr. Chron. + 1 30.85
	Rumker N. F., 928	10.7 14.7	. . 23.0	35.2 31.4	31 23.00	4 45.742	—1 8.40	+ 32.362	α δ h. m. s. ° ′ ″ Rumker N. F., 928, 1 44 0.95 + 7 52 53.57
	Rumker N. F., 931	26.2 30.0	. . 18.3	50.5 46.7	31 38.34	5 35.400			Echo—Rumker N. F., 928,
	Echo	49.6 53.8	. . 1.9	14.3 10.2	34 1.96	2 39.541			Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 22 59 32.19 — 1 9.51 + 8 8.34
	Rumker N. F., 928	58.5 2.5	. . 10.7	23.2 19.2	35 10.82	4 45.937	1 8.86	32.258	Δ ρ .00 + .23 p — .25 + 3.93
	Rumker N. F., 931	13.6 17.8	. . 25.7	38.0 34.5	35 25.92	5 35.611			
	Rumker N. F., 928	33.9 37.7	. . 45.8	58.4 54.3	38 46.02	2 39.685			
	Rumker N. F., 931	42.6 46.6	. . 54.8	7.1 3.2	22 39 54.86	4 45.910	—1 8.84	+ 32.087	

(Continued.)

ECHO.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δa	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Nov. 4 F.	Echo	34.5	. .	58.3					
		38.2	46.1	54.6	22 50 46.34	2 40.491			
	Rumker N. F., 928	43.4	. .	7.8					
		47.4	55.6	4.1	51 55.66	4 46.211	−1 9.32	+ 31.582	
	Echo	52.7	. .	17.3					
		56.8	4.9	13.4	53 5.02	2 40.339			
	Rumker N, F., 928	2.0	. .	26.7					
		5.8	14.3	22.6	54 14.28	4 46.495	1 9.26	32.018	
	Echo	5.1	. .	29.3					
		9.1	16.8	25.4	58 17.14	2 40.481			
	Rumker N. F., 928	14.6	. .	38.9					
		18.6	26.8	35.2	22 59 26.82	4 46.448	1 9.68	31.829	
	Echo	53.4	. .	17.2					
		56.9	5.0	13.4	23 1 5.18	2 40.818			
	Rumker N. F., 928	2.6	.	27.3					
		6.6	14.8	23.2	2 14.90	4 46.765	1 9.72	31.809	
	Echo	45.1	. .	9.1					
		48.7	56.8	5.5	5 57.04	2 40.728			
	Rumker N. F., 928	54.7	. .	19.2					
		58.4	7.3	15.2	7 6.96	4 46.649	1 9.92	31.783	
	Echo	8.2	. .	32.6					
		12.2	20.5	28.6	8 20.42	2 40.790			
	Rumker N. F., 928	17.9	. .	42.5					
		21.8	29.9	38.4	8 30.10	4 46.765	1 9.68	31.837	
	Echo	40.6	. .	5.0					
		44.6	52.8	0.8	11 52.76	2 40.738			
	Rumker N. F., 928	50.6	. .	14.9					
		54.5	2.4	10.9	13 2.66	4 46.522	1 9.90	31.646	
	Echo	25.5	. .	50.1					
		29.4	37.9	45.8	20 37.74	2 41.148			
	Rumker N. F., 928	35.9	. .	0.3					
		39.8	48.0	56.2	21 48.04	4 46.741	1 10.30	31.455	
	Echo	59.6	. .	23.9					
		3.6	11.8	19.8	23 11.74	2 41.332			
	Rumker N. F., 928	9.8	. .	34.2					
		13.8	21.8	30.2	23 24 21.96	4 46.895	−1 10.22	+ 31.425	

CERES.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 18	Ceres	7.3	15.4	24.0	21 43 15.57	3 31.273			m. s. Corr. Chron. + 1 4.34 α δ h. m. s. ° ′ ″ Weisse I, 402, 1 24 21.48 − 6 14 23.69 Ceres—Weisse I, 402, Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 21 58 34.71 − 0 10.91 − 1 27 73 Δ ρ .00 − .09 p − .18 + 3.00
	Weisse I, 402 . .	16.8	25.3	33.7	43 25.27	3 25.667	−0 9.70	− 5.606	
H.	Ceres	9.8	18.2	26.4	45 18.13	3 31.415			
	Weisse I, 402 . .	19.5	27.4	36.3	45 27.73	3 25.655	0 9.60	5.760	
	Ceres	27.2	35.3	43.5	47 35.33	3 31.367			
	Weisse I, 402 . .	36.9	45.0	53.7	47 45.20	3 25.800	0 9.87	5.567	
	Ceres	51.5	59.8	7.9	49 59.73	3 31.655			
	Weisse I, 402 . .	1.3	9.5	17.8	50 9.53	3 25.980	0 9.80	5.675	
	Ceres	10.4	19.0	27.3	52 18.90	3 31.735			
	Weisse I, 402 . .	20.7	29.0	37.1	52 28.93	3 26.097	0 10.03	5.638	
	Ceres	54.5	2.8	11.1	53 2.80	3 31.837			
	Weisse I, 402 . .	4.4	12.8	21.3	54 12.83	3 26.013	0 10.03	5.824	
	Ceres	13.9	22.2	30.4	56 22.17	3 31.929			
	Weisse I, 402 . .	24.0	32.3	40.6	56 32.30	3 26.128	0 10 13	5.801	
	Ceres	54.1	2.4	10.9	57 2.47	3 31.990			
	Weisse I, 402 . .	4.3	12.7	21.1	58 12.70	3 26.310	0 10.23	5.680	
	Ceres	49.4	57.8	6.0	59 57.73	3 32.119			
	Weisse I, 402 . .	59.7	8.0	16.2	21 59 7.97	3 26.451	0 10.24	5.668	
	Ceres	39.5	47.8	56.2	22 1 47.83	3 32.178			
	Weisse I, 402 . .	50.0	58.2	6.4	1 58.20	3 26.525	0 10.37	5.653	
	Ceres	27.4	35.7	44.0	3 35.70	3 32.326			
	Weisse I, 402 . .	37.9	46.1	54.5	3 46.17	3 26.619	0 10.47	5.707	
	Ceres	4.9	13.2	21.6	5 13.23	3 32.432			
	Weisse I, 402 . .	15.3	23.5	32.0	5 23.60	3 26.668	0 10.37	5.764	
	Ceres	42.3	50.5	59.0	6 50.60	3 32.454			
	Weisse I, 402 . .	52.9	1.3	9.6	7 1.27	3 26.631	0 10.67	5.823	
	Ceres	6.4	14.9	23.2	9 14.83	3 32.556			
	Weisse I, 402 . .	17.2	25.4	33.8	9 25.47	3 26.780	0 10.64	5.776	
	Ceres	52.1	0.5	8.8	11 0.47	3 32.695			
	Weisse I, 402 . .	2.8	11.1	19.6	22 11 11.17	3 26.830	−0 10.70	− 5.865	
Oct. 20	Ceres	52.2	0.6	9.0	21 9 0.60	4 38.248			m. s. Corr. Chron. + 1 6.83 α δ h. m. s. ° ′ ″ Weisse I, 402, 1 24 21.49 − 6 14 23.84 Weisse I, 381, 1 23 6.32 − 6 17 34.69 Ceres—Weisse I, 402, Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 21 24 8.65 − 1 52.07 − 6 20.07 Δ ρ − .03 − .54 p − .20 + 2.95 Ceres—Weisse I, 381, h. m. s. Sid. T. 21 24 8.65 − 0 37.00 − 3 7.94 Δ ρ − .02 − .27 p − .20 + 2.95
	Weisse I, 381 . .	28.8	37.1	45.4	9 37.10	3 39.284	−0 36.50	− 12.041	
	Weisse I, 402 . .	43.8	52.2	0.4	10 52.13	2 39.617	1 51.53	24.493	
H.	Ceres	54.0	2.3	10.6	12 2.30	4 38.551			
	Weisse I, 381 . .	30.6	38.8	47.2	12 38.87	3 39.411	0 36.57	12.217	
	Weisse I, 402 . .	45.6	54.0	2.4	13 54.00	2 39.722	1 51.70	24.691	
	Ceres	48.0	56.4	4.7	14 56.37	4 37.634			
	Weisse I, 381 . .	24.6	33.0	41.4	15 33.00	3 38.475	0 36.63	12.236	
	Weisse I, 402 . .	39.9	48.1	56.4	16 48.13	2 38.731	1 51.76	24.765	
	Ceres	46.3	54.7	3.0	17 54.67	4 37.942			
	Weisse I, 381 . .	23.1	31.4	39.7	18 31.40	3 38.833	0 36.73	12.186	
	Weisse I, 402 . .	38.3	46.5	54.8	19 46.53	2 39.082	1 51.86	24.722	
	Ceres	31.6	39.7	48.1	21 39.80	4 38.337			
	Weisse I, 381 . .	8.6	17.0	24.9	22 16.83	3 39.123	0 37.03	12.291	
	Weisse I, 402 . .	23.4	31.8	40.2	23 31.80	2 39.425	1 52.00	24.774	
	Ceres	24.0	32.3	40.8	24 32.37	4 38.555			
	Weisse I, 381 . .	1.1	9.4	17.7	25 9.40	3 39.354	0 37.03	12.278	
	Weisse I, 402 . .	16.2	24.7	33.0	26 24.63	2 39.583	1 52.26	24.834	
	Ceres	15.2	23.6	32.0	27 23.60	4 38.831			
	Weisse I, 381 . .	52.5	0.6	8.8	28 0.63	3 39.554	0 37.03	12.354	
	Weisse I, 402 . .	7.4	15.8	24.2	21 29 15.80	2 39.854	−1 52.20	− 24.839	(Continued.)

CERES.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 20	Ceres	8.7	17.0	25.3	21 31 17.00	4 37.152			
	Weisse I, 381 . .	46.0	54.4	2.9	31 54.43	3 37.880	—0 37.43	— 12.349	
	Weisse I, 402 . .	1.0	9.3	17.8	33 9.37	2 38.131	1 52.37	24.883	
H.									
	Ceres	6.4	14.6	23.0	34 14.67	4 37.289			
	Weisse I, 381 . .	43.7	52.0	0.6	34 52.10	3 37.991	0 37.43	12.375	
	Weisse I, 402 . .	58.8	7.1	15.5	36 7.13	2 38.274	1 52.46	24.877	
	Ceres	8.5	16.8	25.2	37 16.83	4 37.474			
	Weisse I, 381 . .	46.2	54.6	2.7	37 54.50	3 38.335	0 37.67	12.216	
	Weisse I, 402 . .	1.1	9.3	17.8	21 39 9.40	2 38.406	—1 52.57	— 24.930	

AMPHITRITE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δα	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Oct. 18	Amphitrite . . .	9.4	18.3	27.3	22 52 18.33	2 30.711			m. s. Corr. Chron. + 1 4.40 α δ h. m. s. ° ′ ″ Weisse 2, II, 805, 2 33 51.12 +21 39 54.42 Amphitrite—Weisse 2, II, 805, Δα Δδ h. m. s. m. s. ′ ″ Sid. T. 23 6 19.11 − 1 37.40 +13 9.30 Δρ .00 + .30 p − .26 + 1.69
	Weisse 2, II, 805 .	46.5	55.4	4.3	53 55.40	5 39.295	−1 37.07	+ 51.454	
H.	Amphitrite . . .	55.3	4.2	13.1	55 4.20	2 30.732			
	Weisse 2, II, 805 .	32.3	41.1	50.0	56 41.13	5 39.357	1 36.93	51.495	
	Amphitrite . . .	45.3	54.3	3.0	57 54.20	2 30.814			
	Weisse 2, II, 805 .	22.4	31.1	40.1	22 59 31.20	5 39.329	1 37.00	51.385	
	Amphitrite . . .	30.8	39.7	48.8	23 0 39.77	2 30.790			
	Weisse 2, II, 805 .	8.0	16.9	25.9	2 16.93	5 39.464	1 37.16	51.544	
	Amphitrite . . .	48.8	57.6	6.4	3 57.60	2 31.022			
	Weisse 2, II, 805 .	26.1	35.0	43.8	5 34.97	5 39.644	1 37.37	51.492	
	Amphitrite . . .	30.0	38.9	48.0	6 38.97	2 30.977			
	Weisse 2, II, 805 .	7.6	16.4	25.4	8 16.47	5 39.693	1 37.50	51.586	
	Amphitrite . . .	23.4	32.2	41.3	9 32.30	2 31.233			
	Weisse 2, II, 805 .	1.0	10.0	18.9	11 9.97	5 39.746	1 37.67	51.383	
	Amphitrite . . .	6.3	15.2	24.3	12 15.27	2 31.355			
	Weisse 2, II, 805 .	44.0	52.9	1.9	13 52.93	5 39.985	1 37.66	51.500	
	Amphitrite . . .	27.4	36.2	45.2	15 36.27	2 31.392			
	Weisse 2, II, 805 .	5.1	13.9	22.9	17 13.97	5 39.914	1 37.70	51.392	
	Amphitrite . . .	21.3	30.2	39.2	18 30.23	2 31.514			
	Weisse 2, II, 805 .	59.3	8.1	17.0	23 20 8.13	5 40.031	−1 37.90	+ 51.387	
Oct. 20	Amphitrite . .	23.3	. .	49.2					m. s. Corr. Chron. + 1 6.91 α δ h. m. s. ° ′ ″ Weisse 2, II, 805, 2 33 51.15 +21 39 54.58 Amphitrite—Weisse 2, II, 805, Δα Δδ h. m. s. m. s. ′ ″ Sid. T. 22 13 25.50 − 3 29.51 +11 9.33 Δρ + .01 + .31 p − .31 + 2.78
		27.3	36.2	45.2	21 59 36.24	1 43.251			
	Weisse 2, II, 805	52.3	. .	18.4					
		56.3	5.2	14.2	22 3 5.28	4 43.837	−3 29.04	+ 43.579	
H.	Amphitrite . .	22.2	. .	48.4					
		26.4	35.4	44.5	4 35.38	1 43.400			
	Weisse 2, II, 805	51.5	. .	17.8					
		55.8	4.8	13.6	8 4.70	4 44.038	3 29.32	43.631	
	Amphitrite . .	41.8	. .	7.9					
		45.9	54.9	3.8	9 54.86	1 43.587			
	Weisse 2, II, 805	11.0	. .	37.4					
		15.2	24.1	33.1	13 24.16	4 44.339	3 29.30	43.745	
	Amphitrite . .	39.8	. .	6.0					
		44.0	52.9	1.8	14 52.90	1 43.904			
	Weisse 2, II, 805	9.4	. .	35.6					
		13.5	22.3	31.3	18 22.42	4 44.478	3 29.52	43.567	
	Amphitrite . .	28.9	. .	54.9					
		33.0	42.0	51.0	19 41.96	1 43.957			
	Weisse 2, II, 805	58.5	. .	24.9					
		2.8	11.7	20.7	23 11.72	4 44.600	3 29.76	43.636	
	Amphitrite . .	57.3	. .	23.2					
		1.3	10.2	19.0	25 10.20	1 44.196			
	Weisse 2, II, 805	27.2	.	53.5					
		31.4	40.1	49.3	22 28 40.30	4 44.890	−3 30.10	+ 43.687	

CYBELE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Nov. 5	Weisse III, 139 .	19.9	28.5	37.2	22 29 28.53	1 47.736	+0 17.85	— 47.999	m. s.
	Cybele	. .	46.5	54.9	29 46.38	4 52.742			Corr. Chron, + 1 32.72
	(* 11)	56.3	4.4	13.3	30 4.67	4 39.432			α δ
	Weisse III, 168 .	46.8	55.4	4.0	30 55.40	2 30.999	—1 9.02	47.605	h. m. s. ° ′ ″
F.									Weisse III, 139, 3 8 59.68 +13 21 4.24
	Weisse III, 139 .	35.6	44.2	52.9	36 44.23	1 48.300	+0 17.50	47.741	Weisse III, 168, 3 10 26.82 +13 21 0.65
	Cybele	. .	1.8	10.3	37 1.73	4 53.048			
	(* 11)	11.3	20.4	28.7	37 20.13	3 52.925			Cybele—Weisse III, 139,
	Weisse III, 168 .	2.3	11.0	19.8	38 11.03	1 48.430	—1 9.30	47.611	Δ α Δ δ
									h. m. s. m. s. ′ ″
	Weisse III, 139 .	18.8	27.1	35.5	43 27.13	1 48.548	+0 17.65	47.815	Sid. T. 22 46 46.98 + 0 17.54 —12 15.93
	Cybele	. .	44.7	53.2	43 44.78	4 53.470			Δ ρ — .02 — .48
	(* 11)	54.6	2.8	11.6	44 3.00	3 52.915			p — .15 — 1.66
	Weisse III, 168 .	45.5	54.2	2.5	44 54.07	1 48.930	—1 9.29	47.533	
									Cybele—Weisse III, 168,
	Weisse III, 139 .	26.5	34.5	43.3	52 34.77	1 48.862	+0 17.45	48.146	
	Cybele	. .	52.1	0.6	52 52.22	4 54.015			h. m. s.
	(* 11)	2.0	10.8	19.5	53 10.77	3 53.672			Sid. T. 23 7 52.24 — 1 10.01 —12 15.05
	Weisse III, 168	53.4	1.8	10.2	22 54 1.80	1 49.420	—1 9.58	47.588	Δ ρ — .02 — .48
									p — .14 + 1.60
	Weisse III, 139 .	20.5	28.8	37.5	23 2 28.93	1 49.415	+0 17.25	48.217	
	Cybele	. .	46.1	54.7	2 46.18	4 54.639			
	Weisse III, 168 .	47.4	55.8	4.4	3 55.87	1 49.580	—1 9.69	48.052	
	Cybele	43.5	52.0	0.6	5 52.03	4 46.972			
	Weisse III, 168 .	53.5	1.9	10.6	7 2.00	1 42.075	1 9.97	47.890	
	Cybele	13.2	21.8	30.2	8 21.73	4 47.171			
	Weisse III, 168 .	23.2	31.7	40.5	9 31.80	1 42.135	1 10.07	48.029	
	Cybele	25.7	34.1	42.8	10 34.20	4 47.025			
	Weisse III, 168	35.8	44.3	52.8	11 44.30	1 42.138	1 10.10	47.880	
	Cybele	30.6	39.1	47.7	12 39.13	4 47.242			
	Weisse III, 168 .	40.7	49.0	57.8	13 49.17	1 42.365	1 10.04	47.870	
	Cybele	41.4	49.8	58.2	15 49.80	4 47.688			
	Weisse III, 168 .	51.8	0.1	8.8	17 0.23	1 42.408	1 10.43	48.273	
	Cybele	57.8	6.2	14.5	18 6.17	4 47.450			
	Weisse III, 168 .	7.8	16.5	25.7	19 16.67	1 42.464	1 10.50	47.979	
	Cybele	47.2	55.6	4.4	20 55.73	4 47.700			
	Weisse III, 168 .	57.6	5.9	14.7	22 6.07	1 42.490	1 10.34	48.203	
	Cybele	4.2	12.6	21.4	23 12.73	4 47.750			
	Weisse III, 168 .	14.5	23.3	31.8	24 23.20	1 42.760	1 10.47	47.983	
	Cybele	13.8	22.3	30.8	25 22.30	4 48.040			
	Weisse III, 168 .	24.4	32.9	41.5	26 32.93	1 42.830	1 10.63	48.203	
	Cybele	39.4	47.7	55.9	27 47.67	4 47.995			
	Weisse III, 168 .	49.8	58.5	7.1	23 28 58.47	1 42.800	—1 10.80	— 48.188	
									m. s.
Nov. 14	Cybele	. .	. .	43.8	23 24 35.20	1 41.791			Corr. Chron. + 1 56.08
	B. A. C. 987 . . .	41.2	49.4	58.2	25 49.60	3 42.318	—1 14.40	+ 30.443	α δ
F.									h. m. s. ° ′ ″
	Cybele	41.4	49.9	58.5	28 49.93	1 41.828			B. A. C. 987, 3 3 58.97 +12 32 3.40
	B. A. C. 987 . . .	55.8	4.3	12.8	30 4.30	3 42.433	1 14.37	30.521	
									Cybele—B. A. C. 987,
	Cybele . . .	. .	20.4	28.7	32 20.30	1 41.825			Δ α Δ δ
	B. A. C. 987 . . .	26.3	34.8	43.3	33 34.80	3 42.588	1 14.50	30.679	h. m. s. m. s. ′ ″
									Sid. T. 23 47 38.91 — 1 14.98 + 7 46.69
	Cybele	11.6	19.9	28.3	39 19.93	1 42.472			Δ ρ .00 + .21
	B. A. C. 987 . . .	26.2	34.6	43.2	40 34.67	3 42.908	1 14.74	30.352	p — .14 + 1.60
	Cybele	25.7	34.3	42.5	43 34.17	1 42.612			
	B. A. C. 987 . . .	40.8	49.2	57.8	44 49.27	3 43.002	1 15.10	30.306	
	Cybele	21.6	29.6	38.3	47 29.83	1 42.672			
	B. A. C. 987 . . .	36.2	44.8	53.4	23 48 44.80	3 43.081	—1 14.97	+ 30.325	

CYBELE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Nov. 14	Cybele	. .	33.4	41.9	23 52 33.42	1 42.569			
F.	B. A. C. 987 . . .	40.2	48.6	57.2	53 48.67	3 43.280	—1 15.25	+ 30.627	
	Cybele	23.5	32.1	41.3	58 32.30	1 43.000			
	B. A. C. 987 . . .	39.0	47.4	55.8	59 47.40	3 43.458	1 15.10	30.374	
	Cybele	48.7	57.3	5.5	2 57.17	1 42.883			
	B. A. C. 987 . . .	4.3	12.8	21.3	4 12.80	3 43.489	1 15.63	30.522	
	Cybele	. .	56.4	5.4	6 56.62	1 43.423			
	B. A. C. 987 . . .	3.8	12.3	21.0	23 8 12.37	3 43.652	—1 15.75	+ 30.145	
Nov. 23 F.	(* 9.5) . . .	33.5 37.3	. . 46.0	58.4 54.4	1 20 45.92	1 46.530			m. s. Corr. Chron. + 2 19.33 α δ h. m. s. ° ′ ″ Weisse II, 1001, 2 57 36.26 +12 7 58.67 Cybele—Weisse II, 1001, Δα Δδ h. m. s. m. s. ′ ″ Sid. T. 1 31 28.03, — 1 9.55 + 5 43.62 Δρ .00 + .17 p — .06 + 1.33
	Cybele . . .	1.6 5.6	. . 13.8	26.5 22.5	21 14.00	2 46.172			
	Weisse II, 1001 .	10.6 14.8	. . 23.2	35.7 31.6	22 23.18	4 42.720	—1 9.18	+ 22.410	
	(* 9.5) . . .	59.3 2.8	. . 11.5	24.1 20.0	27 11.54	1 47.100			
	Cybele . . .	26.7 . .	. . 39.3	52.1 47.8	27 39.29	2 46.660			
	Weisse II, 1001 .	36.7 40.5	. . 48.7	1.4 57.5	28 48.96	4 43.365	1 9.67	22.567	
	Cybele . .	59.6 2.5	. . 12.1	24.6 20.5	32 11.86	2 46.910			
	Weisse II, 1001 .	9.1 13.2	. . 21.6	34.1 30.0	33 21.60	4 43.420	1 9.74	22.372	
	Cybele . . .	17.4 21.3	. . 29.4	42.0 38.0	35 29.62	2 46.975			
	Weisse II, 1001 .	26.8 30.8	. . 39.3	51.7 47.5	1 36 39.22	4 43.379	—1 9.60	+ 22.266	
Nov. 25 F.	Cybele . . .	27.0 30.9	. . 39.1	51.8 47.8	23 50 39.32	4 38.651			m. s. Corr. Chron. + 2 24.51 α δ h. m. s. ° ′ ″ Weisse II, 1001, 2 57 36.27 +12 7 58.61 Cybele—Weisse II, 1001, Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 0 20 39.34 — 2 25.59 + 0 37.13 Δρ .00 + .01 p — .10 + 1.47
	Weisse II, 1001 .	51.7 55.5	. . 3.6	16.8 12.6	53 4.04	4 41.281	—2 24.72	+ 2.630	
	Cybele . . .	9.8 14.2	. . 22.4	34.6 30.9	55 22.38	4 38.901			
	Weisse II, 1001 .	34.8 39.0	. . 47.4	59.4 56.3	23 57 47.38	4 41.582	2 25.00	2.681	
	Cybele . . .	36.1 39.8	. . 48.2	0.5 56.6	0 1 48.24	4 39.252			
	Weisse II, 1001 .	0.6 4.9	. . 13.5	25.8 21.9	4 13.34	4 41.805	2 25.10	2.553	
	Cybele . . .	2.5 6.5	. . 15.0	27.5 23.3	6 14.96	4 39.415			
	Weisse II, 1001 .	27.6 31.8	. . 40.3	53.1 48.8	8 40.32	4 41.732	2 25.36	2.317	
	Cybele . . .	39.3 43.2	. . 51.6	4.1 59.6	17 51.56	4 39.759			
	Weisse II, 1001 .	4.8 8.8	. . 17.5	29.7 25.5	20 17.26	4 42.021	2 25.70	2.262	
	Cybele . . .	27.8 31.9	. . 40.5	52.6 48.8	24 40.32	4 39.840			
	Weisse II, 1001 .	53.4 57.4	. . 5.6	19.3 14.3	27 6.00	4 42.115	2 25.68	2.275	
	Cybele . . .	21.9 26.4	. . 34.3	46.4 43.2	29 31.44	4 39.705			
	Weisse II, 1001 .	48.4 52.4	. . 0.1	12.4 8.8	0 32 0.42	4 42.289	—2 25.98	+ 2.584	(Continued.)

CYBELE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ a	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Nov. 25	Cybele - - -	31.8	. .	56.3					
		35.4	43.9	52.4	0 33 43.96	4 40.117			
	Weisse II, 1001 -	57.4	. .	22.5					
		1.4	9.9	18.2	36 9.88	4 42.328	−2 25.92	+ 2.211	
F.	Cybele -	55.9	. .	20.5					
		59.9	8.3	16.4	39 8.20	4 40.050			
	Weisse II, 1001 -	21.8	. .	46.6					
		25.8	34.3	43.1	41 34.32	4 42.520	2 26.12	2.470	
	Cybele - - -	12.5	. .	37.1					
		16.5	25.2	33.3	43 24.92	4 40.278			
	Weisse II, 1001 -	38.6	. .	4.0					
		42.6	51.1	59.7	0 45 51.20	4 42.508	−2 26.28	+ 2.230	

FIDES.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Nov. 25	Fides	15.9	. .	43.3					m. s. Corr. Chron. + 2 24.62
		20.2	29.6	38.7	1 11 29.54	1 45.978			
	Weisse 2, IV, 1261	24.5	. .	51.8					α δ h. m. s. ° ′ ″
		28.8	38.2	47.4	14 38.14	2 48.602	−3 8.60	+ 19.755	Weisse 2, IV, 1261, 4 56 13.75 +27 30 6.42
F.	Fides	5.3	. .	32.4					Fides—Weisse 2, IV, 1261,
		9.8	18.8	27.8	16 18.82	1 46.248			Δ α Δ δ h. m. s. m. s. ′ ″
	Weisse 2, IV, 1261	13.6	. .	41.3					
		18.2	27.6	36.9	19 27.52	2 48.542	3 8.70	19.425	Sid. T. 1 38 7.58 − 3 9.54 + 4 59.70
	Fides	18.3	. .	45.5					Δ ρ .00 + .10 p − .32 + 2.29
		22.7	31.9	41.5	22 31.98	1 46.309			
	Weisse 2, IV, 1261	27.4	. .	54.5					
		31.6	40.9	50.3	25 40.94	2 48.765	3 8.96	19.587	
	Fides	59.5							
		4.0	13.2	22.0	26 13.04	1 46.375			
	Weisse 2, IV, 1261	8.9	. .	36.1					
		13.2	22.6	31.9	30 22.54	2 48.748	3 9.50	19.504	
	Fides	39.5	. .	6.5					
		43.8	52.9	2.3	32 53.00	1 46.492			
	Weisse 2, IV, 1261	48.8	. .	16.1					
		53.3	2.3	11.8	36 2.46	2 49.021	3 9.46	19.660	
	Fides	20.7	. .	48.1					
		25.3	34.5	43.8	39 34.48	1 46.898			
	Weisse 2, IV, 1261	30.6	. .	58.7					
		34.7	43.8	53.2	42 44.20	2 49.338	3 9.72	19.571	
	Fides . . .	36.2	. .	2.9					
		40.6	49.8	59.0	44 49.70	1 47.020			
	Weisse 2, IV, 1261	46.3	. .	13.1					
		50.0	59.5	8.6	47 59.50	2 49.292	3 9.80	19.403	
	Fides	31.3	. .	58.6					
		35.8	44.9	54.3	49 44.98	1 47.048			
	Weisse 2, IV, 1261	41.4	. .	8.8					
		45.6	55.0	4.5	52 55.06	2 49.432	3 10.08	19.515	
	Fides	10.3	. .	37.6					
		14.6	23.8	33.4	54 23.94	1 47.091			
	Weisse 2, IV, 1261	20.4	. .	47.8					
		25.2	34.1	43.4	57 34.18	2 49.459	3 10.24	19.499	
	Fides	56.1	. .	23.6					
		0.9	10.2	19.6	59 10.08	1 47.433			
	Weisse 2, IV, 1261	6.9	. .	34.3					
		11.2	20.3	29.6	1 2 20.46	2 49.790	−3 10.38	+ 19.488	
Nov. 29	Weisse 2, IV, 1047	26.4	35.8	45.2	1 20 35.80	2 42.562	+1 30.50	− 11.913	m. s. Corr. Chron. + 2 39.57
H.	Fides	57.2	6.0	15.7	22 6.30	3 41.690			α δ h. m. s. ° ′ ″
	Weisse 2, IV, 1047	59.3	8.7	18.1	23 8.70	2 42.666	1 30.53	11.838	Weisse 2, IV, 1047, 4 47 31.23 +27 37 2.30
	Fides	30.0	39.2	48.5	24 39.23	3 41.719			
	Weisse 2, IV, 1047	28.9	38.1	47.6	25 38.20	2 42.654	1 30.50	11.958	Fides—Weisse 2, IV, 1047,
	Fides	59.4	8.6	18.1	27 8.70	3 41.827			Δ α Δ δ h. m. s. m. s. ′ ″
	Weisse 2, IV, 1047	31.3	40.6	50.2	28 40.70	2 42.755	1 30.20	11.902	Sid. T. 1 36 57.98 + 1 30.06 − 3 2.21
	Fides	1.6	10.9	20.2	30 10.90	3 41.872			Δ ρ .00 − .06 p − .31 + 2.25
	Weisse 2, IV, 1047	4.0	13.3	22.5	31 13.27	2 42.783	1 30.13	11.922	
	Fides	34.2	43.4	52.6	32 43.40	3 41.920			
	Weisse 2, IV, 1047	34.6	43.9	53.1	33 43.87	2 42.923	1 29.93	11.740	
	Fides	4.6	13.8	23.0	35 13.80	3 41.878			
	Weisse 2, IV, 1047	4.7	13.9	23.3	36 13.97	2 42.907	1 29.93	11.862	
	Fides	34.6	43.9	53.2	37 43.90	3 41.984			
	Weisse 2, IV, 1047	54.0	3.2	12.7	40 3.30	2 42.994	+1 29.77	− 11.940	(Continued.)
	Fides	23.8	33.0	42.4	1 41 33.07	3 42.149			

FIDES.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s	s.	s.	h. m. s.		m. s.	revs.	
Nov. 29	Weisse 2, IV, 1047	57.3	6.6	16.1	1 43 6.67	2 43.140	+1 29.66	— 11.872	
	Fides	27.0	36.4	45.6	44 36.33	3 42.227			
H.	Weisse 2, IV, 1047	29.7	39.0	48.4	45 39.03	2 43.208	+1 29.47	— 11.857	
	Fides	59.1	8.5	17.9	1 47 8.50	3 42.280			
Nov. 30	Weisse 2, IV, 1047	43.7	53.3	2.5	2 13 53.17	3 37.718	+0 26.26	— 14.301	m. s. Corr. Chron. + 2 42.74 α δ h. m. s. ° ′ ″ Weisse 2, IV, 1047, 4 47 31.24 +27 37 2.30 Fides—Weisse 2, IV, 1047, Δ α Δ δ h. m. s. m. s. ′ ″ Sid. T. 2 37 40.72 — 0 25.44 — 3 30.43 Δ ρ .00 — .06 p — .22 + 1.91
	Fides	10.3	19.5	28.6	14 19.43	4 38.942			
F.	Weisse 2, IV, 1047	16.3	25.6	34.9	15 25.60	3 37.679	0 26.27	14.378	
	Fides	42.5	51.9	1.2	15 51.87	4 38.980			
	Weisse 2, IV, 1047	20.3	29.3	38.7	30 29.43	3 37.670	0 25.70	14.407	
	Fides	45.6	55.3	4.5	30 55.13	4 39.000			
	Weisse 2, IV, 1047	42.6	51.6	1.0	33 51.73	3 38.000	0 25.40	14.339	
	Fides	7.7	17.4	26.3	34 17.13	4 39.262			
	Weisse 2, IV, 1047	48.7	58.2	7.5	36 58.13	3 38.142	0 25.40	14.398	
	Fides	14.2	23.5	32.9	37 23.53	4 39.463			
	Weisse 2, IV, 1047	2.6	11.9	21.2	40 11.90	3 38.100	0 25.10	14.246	
	Fides	27.6	36.9	46.5	40 37.00	4 39.269			
	Weisse 2, IV, 1047	14.8	23.8	33.4	44 24.00	3 38.285	0 25.03	14.093	
	Fides	39.8	49.1	58.2	44 49.03	4 39.301			
	Weisse 2, IV, 1047	21.2	30.4	39.9	46 30.50	3 38.310	0 25.00	14.242	
	Fides	46.2	55.6	4.7	46 55.50	4 39.475			
	Weisse 2, IV, 1047	59.1	8.2	17.7	49 8.33	3 38.292	+0 24.84	— 14.357	
	Fides	23.9	33.2	42.4	2 49 33.17	4 39.572			

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
Dec. 6	Fortuna . . .	52.2 56.3	. . 5.0	18.0 14.0	1 23 5.10	3 35.193			Corr. Chron. + 2 53.07 α δ
H.	Rumker 1473 .	2.2 6.3	. . 15.2	28.2 24.1	23 15.20	3 29.503	−0 10.10	+ 5.690	h. m. s. ° ′ ″ Rumker 1473, 5 27 23.21 +21 6 38.62
	Fortuna . . .	36.6 40.8	. . 49.8	2.9 58.4	26 49.70	3 35.300			Fortuna—Rumker 1473, Δ α Δ δ
	Rumker 1473 .	47.0 51.2	. . 0.0	13.1 9.0	27 0.06	3 29.605	0 10.36	5.695	h. m. s. m. s. ′ ″ Sid. T. 1 33 41.17 − 0 10.55 + 1 27.47 Δ ρ .00 + .04 p − .35 + 3.19
	Fortuna . . .	30.2 34.5	. . 43.3	56.3 52.2	29 43.30	3 35.354			
	Rumker 1473 .	40.9 45.0	. . 53.8	6.8 2.6	29 53.82	3 29.677	0 10.52	5.677	
	Fortuna . . .	44.4 48.6	. . 57.4	10.3 6.2	31 57.38	3 35.464			
	Rumker 1473 .	54.9 59.0	. . 8.0	21.0 16.8	32 7.94	3 29.744	0 10.56	5.720	
	Fortuna . . .	0.1 4.3	. . 13.1	26.1 21.9	35 13.10	3 35.647			
	Rumker 1473 .	11.0 15.0	. . 23.9	37.0 32.7	35 23.92	3 29.895	0 10.82	5.752	
	Fortuna . . .	47.0 51.1	. . 0.1	13.0 8.9	38 0.02	3 35.708			
	Rumker 1473 .	57.8 2.1	. . 11.0	24.0 19.8	1 38 10.94	3 30.020	−0 10.92	+ 5.688	
Dec. 7	Fortuna	15.6	24.0	33.1	8 37 24.23	3 32.159			m. s. Corr. Chron. − 4 36.32
	Rumker 1473 . .	29.6	38.0	47.5	38 38.37	3 31.670	−1 14.14	− 0.489	α δ
	Σ. C. Gen. 599 . .	27.0	. .	44.7	39 35.85	3 35.461	2 11.62	+ 3.302	h. m. s. ° ′ ″
F.									Rumker 1473, 5 27 23.22 +21 6 38.61
	Fortuna	25.0	33.7	42.6	42 33.77	3 32.403			Σ. Cat. G. 599, 5 28 22.91 +21 5 43.46
	Rumker 1473 . .	40.1	48.5	57.5	43 48.70	3 31.869	1 14.93	− 0.534	
	Σ. C. Gen. 599 . .	.	46.5	55.5	44 46.70	3 35.908	2 12.93	+ 3.505	Fortuna—Rumker 1473,
	Fortuna	17.0	25.7	34.5	48 25.73	3 32.460			Δ α Δ δ h. m. s. m. s. ′ ″
	Rumker 1473 . .	31.7	40.2	49.5	49 40.47	3 31.928	1 14.74	− 0.532	M. T. 8 58 17.67 − 1 15.65 − 0 8.62
	Σ. C. Gen. 599 . .	. .	. .	46.5	50 37.47	3 35.824			Δ t − .21
	Fortuna	25.0	34.0	42.4	54 43.80	3 32.703			Δ ρ .00 .00
	Rumker 1473 . .	40.1	49.0	58.1	55 49.07	3 32.130	1 15.27	− 0.573	p − .31 + 2.92
	Σ. C. Gen. 599 . .	38.0	46.5	56.0	8 56 46.83	3 33.940	2 13.03	+ 3.237	Fortuna—Σ. Cat. G. 599,
	Fortuna	16.7	25.3	34.0	9 10 25.33	3 33.280			h. m. s. M. T. 8 56 32.50 − 2 13.46 + 0 50.29
	Rumker 1473 . .	32.5	. .	50.7	11 41.60	3 32.650	1 16.27	− 0.630	Δ t − .37
	Σ. C. Gen. 599 . .	30.6	39.5	. .	12 39.35	3 36.456	2 14.02	+ 3.176	Δ ρ .00 + .02 p − .31 + 2.92
	Fortuna	19.0	27.5	36.5	17 27.66	3 33.259			
	Rumker 1473 . .	35.7	44.1	52.6	18 44.13	3 32.778	1 16.47	− 0.481	
	Σ. C. Gen. 599 . .	. .	41.5	50.5	19 41.78	3 36.569	2 14.12	+ 3.310	
	Fortuna	9.5	18.0	27.0	24 18.17	3 33.793			
	Rumker 1473 . .	26.0	34.0	43.7	25 34.57	3 33.142	1 16.40	− 0.651	
	Σ. C. Gen. 599 . .	23.5	32.2	41.0	26 32.23	3 36.930	2 14.06	+ 3.137	
	Fortuna	34.2	43.2	52.0	27 43.13	3 33.820			
	Rumker 1473 . .	51.2	0.1	9.0	9 20 0.10	3 33.218	−1 16.97	− 0.602	
	Σ. C. Gen. 599 . .	49.1	59.6						
Dec. 14	Weisse 2, V, 478 .	28.7	37.6	46.5	2 27 37.60	2 44.479	+0 44.87	− 18.894	
	Weisse 2, V, 486 .	39.6	48.5	57.4	27 48.50	1 38.312			
	Fortuna	13.6	22.4	31.4	28 22.47	4 37.511			
F.									
	Weisse 2, V, 478 .	27.2	36.0	44.8	30 36.00	2 44.638	0 44.63	18.944	
	Fortuna	11.8	20.6	29.5	31 20.63	4 37.720			
	Weisse 2, V, 478 .	6.1	15.3	24.2	33 15.20	2 44.600	+0 44.50	− 19.322	
	Fortuna	50.8	59.7	8.6	2 33 59.70	4 38.060			

(Continued.)

FORTUNA.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m. s.
1864. Dec. 14	Weisse 2, V, 478 .	19.5	28.2	37.3	2 35 28.33	2 31.535	+0 44.11	— 19.352	Corr. Chron. + 3 13.80
F.	Fortuna	3.4	12.5	21.4	36 12.43	4 37.810			α δ h. m. s. ° ′ ″
	Weisse 2, V, 478 .	28.3	37.3	46.2	37 37.27	2 44.605	0 44.33	19.382	Weisse 2, V, 478, 5 17 50.40 +21 0 26.40
	Fortuna	12.7	21.6	30.5	38 21.60	4 38.125			Fortuna—Weisse 2, V, 478,
	Weisse 2, V, 478 .	9.8	18.5	27.4	40 18.57	2 44.552	0 44.23	19.482	Δα Δδ
	Fortuna	53.8	2.8	11.8	41 2.80	4 38.172			h. m. s. m. s. ′ ″ Sid. T. 2 48 42.43 + 0 44.18 — 4 57.16
	Weisse 2, V, 478 .	37.6	46.5	55.5	42 46.53	2 44.711	0 43.97	19.333	Δρ .00 — .10
	Fortuna	21.6	30.5	39.4	43 30.50	4 38.182			p — .24 + 2.53
	Weisse 2, V, 478 .	57.2	6.1	15.0	45 6.10	2 44.713	0 44.13	19.438	
	Fortuna	41.3	50.2	59.2	45 50.23	4 38.289			
	Weisse 2, V, 478 .	19.6	28.6	37.7	47 28.63	2 44.819	0 43.77	19 243	
	Fortuna	3.6	12.4	21.2	48 12.40	4 38.200			
	Weisse 2, V, 478 .	25.9	34.6	43.6	49 34.70	2 44.772	0 43.80	19.449	
	Fortuna . . .	9.5	18.5	27.5	50 18.50	4 38.359			
	Weisse 2, V, 478 .	41.2	49.9	58.8	51 49.97	2 44.739	0 43.76	19.568	
	Fortuna	24.8	33.7	42.7	52 33.73	4 38.445			
	Weisse 2, V, 478 .	33.8	42.8	51.7	53 42.77	2 44.795	0 43.70	19.522	
	Fortuna	17.7	26.5	35.2	54 26.47	4 38.453			
	Weisse 2, V, 478 .	13.2	21.8	30.6	56 21.87	2 44.832	0 43.60	19.560	
	Fortuna	56.7	5.4	14.3	57 5.47	4 38.530			
	Weisse 2, V, 478 .	13.9	22.7	31.7	58 22 77	2 44.873	0 43.63	19.542	
	Fortuna	57.4	6.5	15.3	2 59 6.40	4 38.553			
	Weisse 2, V, 478 .	15.4	24.2	33.4	3 0 24.33	2 44.860	+0 43.24	— 19.595	
	Fortuna	58.7	7.5	16.5	3 1 7.57	4 38.593			

EUTERPE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.	
		A.	B.	C.	Mean.		Δ a	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Dec. 14	* W (132)	41.2	. .	7.5				
		45.5	54.2	3.4	3 29 54.36	4 36.306	+0 8.86	+ 29.089
	Euterpe	49.8	. .	16.5				
F.		. .	. .	12.4	30 3.22	2 33.079		
	Σ. Cat. G. 825	58.0	. .	24.4				
		2.2	11.3	20.3	32 11.24	5 37.231	—2 8.02	47.022
	* W (132)	42.4	. .	8.6				
		46.5	55.3	5.0	34 55.56	4 36.235	+0 8.97	29.082
	Euterpe	51.4	. .	17.7				
		. .	4.6	13.5	35 4.53	2 33.015		
	Σ. Cat. G. 825	. .	. .	25.8				
		3.3	12.9	21.5	37 12.58	5 37.446	—2 8.05	47.301
	* W (132)	6.5	. .	33.6				
		10.6	. .	28.4	42 19.77	4 36.510	+0 8.48	29.199
	Euterpe	15.0	. .	41.3				
		19.5	. .	37.2	42 28.25	2 33.173		
	Σ. Cat. G. 825	23.2	. .	49.6				
		27.5	36.5	45.5	44 36.47	5 37.778	—2 8.22	47.475
	* W (132)	34.7	. .	1.1				
		38.8	. .	56.9	47 47.87	4 36.623	+0 8.60	29.312
	Euterpe	43.2	. .	9.6				
		47.6	. .	5.5	47 56.47	2 33.173		
	Σ. Cat. G. 825	51.6	. .	17.9				
		56.3	4.7	13.8	50 4.86	5 37.872	—2 8.39	47.569
	* W (132)	52.0	. .	18.3				
		56.2	. .	14.1	54 5.15	4 36.761	+0 8.27	29.094
	Euterpe	0.3	. .	26.4				
		4.6	. .	22.4	54 13.42	2 33.529		
	* W (132)	58.1	. .	24.3				
		2.1	. .	20.2	56 11.17	4 36.935	0 8.37	29.325
	Euterpe	6.4	. .	32.8				
		. .	. .	28.5	56 19.54	2 33.472		
	* W (132)	52.4	. .	18.7				
		56.6	. .	14.4	58 5.52	4 37.003	0 8.23	29.455
	Euterpe	0.6	. .	27.0				
		4.8	. .	22.6	3 58 13.75	2 33.410		
	* W (132)	20.6	. .	47.1				
		24.8	34.0	42.8	4 1 33.86	4 36.960	0 8.16	29.230
	Euterpe	28.8	. .	55.2				
		33.1	42.1	50.9	1 42.02	2 33.592		
	* W (132)	15.2	. .	41.5				
		19.1	28.3	37.3	3 28.28	4 37.101	0 8.12	29.278
	Euterpe	23.2	. .	49.6				
		27.5	36.4	45.3	3 36.40	2 33.685		
	* W (132)	58.7	. .	25.2				
		3.2	12.2	21.1	5 12.08	4 37.061	+0 7.88	+ 29.410
	Euterpe	6.8	. .	33.2				
		11.0	20.0	29.0	4 5 19.96	2 33.513		

m. s.
Corr. Chron. + 3 14.48

	α h. m. s.	δ ° ′ ″
* W (132,)	7 1 40.00	+22 34 27.00
Σ. Cat. G. 825 *p*,	7 3 56.58	+22 29 49.52

Euterpe—* W (132,)

	h. m. s.		Δ α m. s.	Δ δ ′ ″
Sid. T.	3 54 44.23		+ 0 8.39	+ 7 28.58
		Δ ρ	.00	+ .15
		p	— .35	+ 3.19

Euterpe—Σ. Cat. G. 825 *p*,

	h. m. s.		Δ α m. s.	Δ δ ′ ″
Sid. T.	3 42 7.60		— 2 8.17	+12 6.10
		Δ ρ	.00	+ .26
		p	— .37	+ 3.31

DATE.	OBJECTS.	A.	B.	C.	Mean.	MIC.	Δ a	Δ mic.
Dec. 22	Euterpe	[illegible]		51.7				
		[illegible]	[illegible]	[illegible]	4 37 38.58	1 43.396		
	ω² Geminorum	6.7		33.2				
H.		11.0	20.4	[illegible]	40 19.96	5 32.884	—2 41.38	+ 49.580
	Euterpe	57.0		[illegible]				
		1.4	[illegible]	[illegible]	42 10.22	1 43.256		
	ω² Geminorum	[illegible]	.	[illegible]				
		42.7	51.6	[illegible]	44 51.72	5 [illegible]	2 41.50	49.513
	Euterpe	[illegible]	.	[illegible]				
		14.6	23.4	[illegible]	47 22.30	1 [illegible]		
	ω² Geminorum	[illegible]	. .	18.4				
		[illegible]	[illegible]	14.2	4 50 3.32	5 [illegible]	2 41.02	+ 49.703

m. s.
Corr. Chron. + 3 [illegible]

	α h. m. s.	δ ° ′ ″
ω² Geminorum	6 50 12.87	+22 50 2.49

Euterpe—ω² Geminorum

	h. m. s.		Δ α m. s.	Δ δ ′ ″
Sid. T.	[illegible] 6.35		— 2 42.27	+12 42.96
		Δ ρ	.00	+ .24
		p	— 24	+ 2.67

(Continued.)

EUTERPE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Dec. 22	Euterpe - - -	45.7 50.0	. . 58.9	12.0 7.8	4 51 58.88	1 43.391			
	ω² Geminorum -	27.5 31.8	. . 40.8	54.2 49.9	54 40.84	5 33.157	—2 41.94	+ 49.767	
H.	Euterpe - - -	4.0 8.2	. . 17.3	30.2 26.1	56 17.16	1 43.474			
	ω² Geminorum -	46.2 50.3	. . 59.3	12.7 8.2	4 58 59.34	5 33.188	2 42.18	49.715	
	Euterpe - - -	5.4 9.9	. . 18.7	32.0 27.7	5 1 18.74	1 43.585			
	ω² Geminorum -	48.0 52.1	. . 1.0	14.2 10.1	4 1.08	5 33.279	2 42.34	49.695	
	Euterpe - -	22.3 26.6	. . 35.6	48.8 44.5	5 35.56	1 43.496			
	ω² Geminorum -	5.1 9.3	. . 18.2	31.7 27.3	8 18.32	5 33.390	2 42.76	49.895	
	Euterpe - - -	26.8 31.0	. . 40.0	53.2 49.1	9 40.02	1 43.630			
	ω² Geminorum	9.5 14.0	. . 22.7	36.0 31.9	12 22.82	5 33.325	2 42.80	49.696	
	Euterpe - - -	14.3 18.3	. . 27.4	40.8 36.5	14 27.46	1 43.647			
	ω² Geminorum -	57.4 1.6	. . 10.3	23.3 19.4	17 10.40	5 33.648	2 42.94	50.002	
	Euterpe - - -	40.8 44.7	. . 53.6	6.8 2.8	18 53.74	1 43.779			
	ω² Geminorum -	24.0 28.0	. . 37.0	50.0 46.0	5 21 37.00	5 33.674	—2 43.26	+ 49.896	

TERPSICHORE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Dec. 22	Terpsichore . . .	50. 1	58. 2	6. 9	2 29 58. 40				m. s. Corr. Chron. + 3 33. 73
	Weisse 0, 247 . .	26. 0	34. 1	42. 7	30 34. 27	. . .	—0 35 87		α δ h. m. s. ° ′ ″
H.	Terpsichore . . .	16. 9	25. 0	33. 2	31 25. 03				Weisse 0, 247, 0 15 3. 56 + 6 15 52. 99
	Weisse 0, 247 . .	52. 4	1. 0	9. 2	32 0. 87	. . .	0. 35. 84		Terpsichore—Weisse 0, 247,
	Terpsichore . . .	30. 6	38. 7	47. 3	32 38. 87				Δ α Δ δ h. m. s. m. s. ′ ″
	Weisse 0, 247 . .	6. 1	14. 5	23. 0	33 14. 53	. . .	0 35. 66		Sid. T. 2 43 14. 39 — 0 35. 56 + 9 1. 22
	Terpsichore . . .	. .	. .	. .	35 47. 00	1 49. 790			Δ ρ . 00 + . 27
	Weisse 0, 247 . .	. .	. .	. .	. . . .	3 55. 050	. . .	+ 35. 176	
	Terpsichore . . .	. .	. .	. .	39 41. 00	1 49. 556			
	Weisse 0, 247 . .	. .	. .	. .	. . . .	3 54. 975	. . .	35. 335	The planet very difficult to observe. A correction of — 0*r*. 062 has been applied to Δ δ in order to reduce to the time of Δ α.
	Terpsichore . . .	41. 1	49. 2	57. 3	42 49. 20				
	Weisse 0, 247 . .	16. 5	24. 7	33. 1	43 24. 77	. . .	0 35. 57		
	Terpsichore . . .	11. 8	19. 9	28. 3	44 20. 00				
	Weisse 0, 247 . .	47. 2	55. 4	3. 9	44 55. 50	. . .	0 35. 50		
	Terpsichore . . .	22. 7	31. 0	39. 2	45 30. 97				
	Weisse 0, 247 . .	57. 9	6. 0	14. 4	46 6. 10	. . .	0 35. 13		
	Terpsichore . . .	. .	. .	. .	46 42. 00	1 49. 312			
	Weisse 0, 247 . .	. .	. .	. .	. . . .	3 54. 941	. . .	35. 545	
	Terpsichore . . .	. .	. .	. .	48 30. 00	1 49. 390			
	Weisse 0, 247 . .	. .	. .	. .	. . . .	3 54. 820	. . .	+ 35. 346	
	Terpsichore . . .	54. 0	2. 2	10. 3	51 2. 17				
	Weisse 0. 247 . .	29. 2	37. 5	45. 9	2 51 37. 53	. . .	—0 35. 36		
Dec. 24	Terpsichore . . .	13. 4	22. 0	30. 3	1 46 21. 90	1 35. 350			m. s. Corr. Chron. + 3 38. 61
	Weisse 0, 302 . .	30. 0	37. 7	46. 6	48 38. 10	5 41. 530	—2 16. 20	— 66. 181	α δ h. m. s. ° ′ ″
H.	Terpsichore . . .	55. 0	3. 7	11. 3	51 3. 33	1 35. 510			Weisse 0, 302, 0 18 44. 65 + 6 56 48. 85
	Weisse 0, 302 . .	11. 1	19. 1	27. 8	53 19. 33	5 41. 470	2 16. 00	65. 961	Terpsichore—Weisse 0, 302,
	Terpsichore . . .	44. 0	51. 7	0. 6	56 52. 10	1 35. 565			Δ α Δ δ h. m. s. m. s. ′ ″
	Weisse 0, 302 . .	0. 2	8. 2	17. 0	1 59 8. 46	5 41. 460	2 16. 36	65. 896	Sid. T. 2 13 0. 35 — 2 15. 55 —16 45. 54
	Terpsichore . . .	15. 2	23. 5	32. 0	2 1 23. 57	1 35. 614			Δ ρ — . 01 — . 43
	Weisse 0, 302 . .	31. 3	39. 7	47. 8	3 39. 60	5 41. 420	2 16. 03	65. 807	
	Terpsichore . . .	15. 8	24. 3	32. 8	5 24. 30	1 35. 714			The planet very difficult to observe.
	Weisse 0, 302 . .	31. 9	40. 1	48. 4	7 40. 13	5 41. 444	2 15. 83	65. 731	
	Terpsichore . . .	27. 0	35. 7	44. 0	9 35. 57	1 35. 735			
	Weisse 0, 302 . .	42. 9	50. 7	59. 3	11 50. 97	5 41. 390	2 15. 40	65. 656	
	Terpsichore . . .	9. 6	18. 2	26. 7	19 8. 17	1 36. 290			
	Weisse 0, 302 . .	25. 0	32. 8	42. 0	21 33. 27	5 41. 526	2 15. 10	65. 237	
	Terpsichore . . .	12. 0	20. 3	28. 6	23 20. 30	1 36. 070			
	Weisse 0, 302 . .	27. 0	34. 4	43. 4	25 34. 93	5 41. 493	2 14. 63	65. 424	
	Terpsichore . . .	3. 2	11. 4	20. 0	28 11. 53	1 36. 374			
	Weisse 0, 302 . .	18. 0	26. 6	35. 0	30 26. 53	5 41. 456	2 15. 00	65. 083	
	Terpsichore . . .	8. 3	16. 3	25. 4	32 16. 67	1 36. 880			
	Weisse 0, 302 . .	23. 4	31. 0	40. 4	2 34 31. 60	5 41. 515	—2 14. 93	— 64. 636	
Dec. 27	Weisse 0, 302 . .	25. 6	34. 0	42. 2	3 30 33. 93	3 43. 840	+0 59. 74	+ 28. 899	
	Terpsichore . . .	25. 3	33. 4	42. 3	31 33. 67	5 42. 654			
H.	Weisse 0, 302 .	14. 0	22. 5	30. 7	33 22. 40	3 43. 876	0 60. 40	29. 277	
	Terpsichore . . .	14. 2	23. 3	30. 9	34 22. 80	5 43. 068			
	Weisse 0, 302 . .	16. 5	25. 1	33. 7	36 25. 10	3 43. 816	+0 59. 53	+ 29. 545	(Continued.)
	Terpsichore . . .	16. 5	24. 0	33. 4	3 37 24. 63	5 43. 276			

TERPSICHORE.

DATE.	OBJECTS.	OBSERVED TIMES OF TRANSIT.				MIC.	PLANET—STAR.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Dec. 27	Weisse 0, 302 . .	57.1	5.6	14.0	3 39 5.57	3 43.996	+0 60.00	+ 29.353	m. s.
	Terpsichore . . .	57.8	5.1	13.8	40 5.57	5 43.264			Corr. Chron. + 3 46.00
H.									α δ
	Weisse 0, 302 . .	29.0	37.4	45.7	41 37.37	3 44.024	0 59.93	29.397	h. m. s. ° ′ ″
	Terpsichore . . .	29.3	36.6	46.0	42 37.30	5 43.336			Weisse 0, 302, . 0 18 44.62 + 6 56 47.62
	Weisse 0, 302 . .	21.4	29.9	38.1	45 29.80	3 44.067	0 60.67	29.504	Terpsichore—Weisse 0, 302,
	Terpsichore . . .	22.3	30.2	38.9	46 30.47	5 43.486			Δ α Δ δ h. m. s. m. s. ′ ″
	Weisse 0, 302 . .	10.0	18.1	26.6	48 18.23	3 44.137	0 60.17	29.592	Sid. T. 3 45 30.59 + 1 0.14 + 7 31.01
	Terpsichore . .	10.0	18.2	27.0	49 18.40	5 43.644			Δ ρ — .01 + .24
	Weisse 0, 302 .	55.2	3.0	11.4	51 3.20	3 44.093	+0 60.67	+ 29.678	
	Terpsichore . . .	55 3	3.9	12.4	3 52 3.87	5 43.686			The planet very difficult to observe.

The observations of Terpsichore have not been corrected for parallax.

PLEIADES.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	m s.
Oct. 12	A. 1	46.5	55.8	5.1	23 16 55.80	3 37.960	—2 1.80	— 17.814	Corr. Chron. + 0 55.20
	A. 3	55.5	4.7	13.6	17 4.60	2 39.651	1 53.00	6.720	α δ
	A. 7	12.0	20.9	29.8	17 20.90	3 36.880	1 36.70	16.734	h. m. s. ° ′ ″
	A. 13	24.0	33.3	42.3	18 33.20	4 33.268	0 24.40	26.199	η Tauri . . . . . . 3 39 29.02 +23 41 5.12
	η Tauri	48.5	57.6	6.7	18 57.60	2 32.931			
F.									Δ α Δ ρ Δ δ Δ ρ
	A. 1	57.1	. .	. .	23 6.03	3 38.280	2 2.17	17.974	m. s. s. ′ ″ ″
	A. 3	6.2	15.1	24.1	23 15.13	2 39.658	1 53.07	6.567	A. 1—η Tauri, —2 2.08 .00 — 4 34.80 — .11
	A. 7	22.5	31.5	40.6	23 31.53	3 37.102	1 36.67	16.796	A. 3—η Tauri, —1 53.13 .00 — 1 41.23 — .02
	A, 13	34.8	43.9	52.8	24 43.83	4 33.416	0 24.37	26.187	A. 7—η Tauri, —1 36.71 .00 — 4 16.92 — .10
	η Tauri	59.3	8.1	17.2	25 8.20	2 33.091			A. 13—η Tauri, —0 24.31 .00 — 6 43.20 — .16
									A. 11—η Tauri —0 49.44 .00 0 15.96 01
	A. 1	12.5	22.0	31.1	34 21.87	3 38.800	2 1.96	18.106	
	(* 12)	21.8	30.7	40.3	34 30.93	2 40.192	1 52.90	6.713	
	A. 7	38.5	. .	. .	34 47.43	3 37.372	1 36.40	16.678	
	A. 11	25.5	34.4	43.6	35 34.50	2 34.411	0 49.33	0.932	
	A. 13	50.6	59.5	8.8	35 59.63	4 33.792	0 24.20	26.175	
	η Tauri	14.9	23.8	32.8	36 23.83	2 33.479			
	A. 1	0.4	9.9	18.9	45 9.73	3 38.760	2 1.97	18.101	
	(* 12)	9.6	18.6	27.7	45 18.63	2 40.280	1 53.07	6.836	
	A. 7	26.1	35.1	44.0	45 35.07	3 37.745	1 36.63	17.086	
	A. 11	13.5	22.5	31.4	46 22.47	2 34.420	0 49.23	0.976	
	A. 13	38.5	47.5	56.4	46 47.47	4 34.180	0 24.23	26.598	
	η Tauri	2.8	11.6	20.7	47 11.70	2 33.444			
	A. 1	11.3	20.5	29.5	52 20.43	2 38.972	2 1.97	17.982	
	(* 12)	20.3	29.2	38.4	52 29.30	2 40.219	1 53.10	6.444	
	A. 7	36.6	45.6	54.8	52 45.67	3 37.655	1 36.73	16.665	
	A. 11	24.1	32.9	42.1	53 33.03	2 34.808	0 49.37	1.033	
	A. 13	49.2	58.0	7.2	53 58.13	4 34.283	0 24.27	26.370	
	η Tauri	13.3	22.4	31.5	23 54 22.40	2 33.775			
	A. 1	57.7	7.4	16.2	0 1 7.10	3 39.008	2 2.00	17.873	
	(* 12)	7.2	16.0	24.8	1 16.00	2 40.490	1 53.10	6.570	
	A. 7	. .	32.2	41.5	1 32.45	3 37.939	1 36.65	16.804	
	A. 11	10.5	19.6	28.7	2 19.60	2 35.302	0 49.50	1.382	
	A. 13	35.8	44.8	53.8	2 44.80	4 34.238	0 24.30	26.180	
	η Tauri	0.2	8.9	18.2	3 9.10	2 33.920			
	A. 1	31.3	40.6	49.4	7 40.43	3 39.232	2 2.20	17.845	
	(* 12)	40.4	49.2	58.2	7 49.27	2 40.770	1 53.36	6.598	
	A. 7	56.7	5.6	14.8	8 5.70	3 38.029	1 36.93	16.642	
	A. 11	44.1	52.9	2.0	8 53.00	2 35.173	0 49.63	1.001	
	A. 13	9.3	18.4	27.3	9 18.33	4 34.710	0 24.30	26.400	
	η Tauri	33.6	42.5	51.8	9 42.63	2 34.172			
	A. 1	23.6	32.8	41.5	15 32.63	3 39.430	2 2.27	17.752	
	(* 12)	32.6	41.3	50.7	15 41.53	2 40.969	1 53.37	6.506	
	A. 7	49.2	58.0	7.2	15 58.13	3 38.378	1 36.77	16.700	
	A. 11	36.3	45.4	54.4	16 45.37	2 35.378	0 49.53	0.915	
	A. 13	1.5	10.6	19.6	17 10.57	4 34.822	0 24.33	26.221	
	η Tauri	25.9	34.8	44.0	17 34.90	2 34.463			
	A. 1	16.8	25.7	35.2	23 25.90	3 39.864	2 2.37	17.811	
	(* 12)	26.1	35.0	44.0	23 35.03	2 41.345	1 53.23	6.507	
	A. 7	42.5	51.4	0.3	23 51.40	3 38.703	1 36.87	16.650	
	A. 11	29.6	38.9	47.8	24 38.77	2 35.886	0 49.50	1.048	
	A. 13	54.9	3.8	12.9	25 3.87	4 35.248	—0 24.40	— 26.272	
	η Tauri	19.4	28.2	37.2	0 25 28.27	2 34.838			
Oct. 14	23 *d* Merope	34.1	42.9	52.0	22 26 43.00	1 36.990			m. s.
	A. 19	35.9	44.9	53.6	27 44.80	3 40.415	+1 1.80	— 33.341	Corr. Chron + 0 57.32
	A. 22	38.7	47.9	56.8	27 47.80	1 44.231	1 4.80	7.241	α δ
F.									h. m. s. ° ′ ″
	23 *d* Merope	33.1	41.9	51.2	34 42.07	1 37.075			23 *d* Merope . . . . 3 38 20.54 +23 31 29.90
	A. 19	34.7	43.9	53.1	35 43.90	3 40.490	1 1.83	33.331	Δ α Δ ρ Δ δ Δ ρ
	A. 22	37.8	46.9	56.0	35 46.90	1 44.294	1 4.83	7.219	m. s. s. ′ ″ ″
	23 *d* Merope	52.9	2.2	11.2	38 2.10	1 37.395			A. 19—23 *d* Merope, + 1 1.77 — .01 — 8 31.72 — .28
	A. 19	54.8	3.7	12.9	39 3.80	3 40.629	1 1.70	33.150	A. 22—23 *d* Merope, + 1 4.81 .00 — 1 50.19 — .06
	A. 22	58.1	. .	15.8	22 39 6.95	1 44.547	+1 4.85	— 7.152	(Continued.)

PLEIADES.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.	RESULTS.
1864.		s.	s.	s.	h. m. s.	rev.	m. s.	revs.	
Oct. 14	23 *d* Merope .	31.9	41.1	50.2	22 51 41.07	1 37.910			
	A. 19 .	33.8	42.7	51.6	52 42.70	3 41.457	+1 1.63	— 33.463	
	A. 22. .	36.7	45.7	54.8	52 45.73	1 45.070	1 4.63	7.160	
F.	23 *d* Merope .	22.6	31.6	40.7	54 31.63	1 38.019			
	A. 19 .	24.5	33.5	42.4	55 33.47	3 41.619	1 1.84	33.516	
	A. 22 .	27.3	36.7	45.5	55 36.50	1 45.032	1 4.87	7.013	
	23 *d* Merope .	53.3	2.4	11.6	57 2.43	1 38.209			
	A. 19 .	55.3	4.3	13.4	58 4.33	3 41.485	1 1.90	33.192	
	A. 22 .	58.3	7.3	16.3	22 58 7.30	1 45.250	1 4.87	7.041	
	23 *d* Merope .	0.6	9.6	18.8	23 2 7.67	1 38.161			
	A. 19 .	2.5	11.4	20.4	3 11.43	3 41.729	1 1.76	33.484	
	A. 22 .	5.6	14.7	23.5	3 14.60	1 45.352	1 4.93	7.191	
	23 *d* Merope .	33.5	42.3	51.7	4 42.50	1 38.212			
	A. 19 .	35.3	44.3	53.6	5 44.40	3 41.781	1 1.90	33.485	
	A. 22 .	38.4	47.5	56.6	5 47.50	1 45.566	1 5.00	7.354	
	23 *d* Merope .	58.7	7.8	17.2	7 7.90	1 38.421			
	A. 19 .	0.5	9.6	18.7	8 9.60	3 41.752	1 1.70	33.247	
	A. 22 .	3.6	12.6	21.5	8 12.57	1 45.523	1 4.67	7.102	
	23 *d* Merope .	42.1	51.2	59.9	9 51.07	1 38.370			
	A. 19 .	43.8	52.7	1.7	10 52.73	3 41.897	1 1.67	33.443	
	A. 22 .	46.7	55.7	4.7	23 10 53.70	1 45.739	+1 4.63	— 7.369	
Nov. 4 F.	23 *d* Merope	9.4 13.4	. . 22.4	35.6 31.6	0 34 22.48	1 42.979			m. s. Corr. Chron. + 1 30.90
	A. 17 .	7.9 12.0	. . 21.2	34.4 30.5	35 21.20	4 52.011	+0 58.72	— 52.025	α δ h. m. s. ° ′ ″ 23 *d* Merope . . . 3 38 20.93 +23 31 31.23
	A. 19 .	10.9 15.4	. . 23.9	. . 33.2	35 24.12	3 46.755	1 1.64	33.692	Δ α Δ ρ Δ δ Δ ρ m. s. s. ′ ″ ′ A. 17—23 *d* Merope, + 0 58.93 .00 —13 14.05 — .26
	A. 23 .	17.4 21.6	. . 30.5	43.6 39.5	35 30.52	5 46.262	1 8.04	63.284	A. 19—23 *d* Merope, + 1 1.86 .00 — 8 31.49 — .17 A. 23—23 *d* Merope, + 1 8.16 .00 —16 5.80 — .31
	23 *d* Merope	51.9 56.1	. . 5.3	18.6 14.4	41 5.26	1 43.381			
	A. 17 .	50.9 55.7	. . 4.1	16.7 13.2	42 4.12	4 52.045	0 58.86	51.657	
	A. 19 .	54.2 58.1	. . 7.1	20.4 16.7	42 7.30	3 46.822	1 2.04	33.357	
	A. 23 .	. . 4.1	. . 13.2	26.5 22.6	42 13.32	5 46.292	1 8.06	62.912	
	23 *d* Merope	10.2 14.4	. . 23.5	36.4 32.4	45 23.38	1 43.401			
	A. 17 .	9.1 13.1	. . 22.6	35.3 31.5	46 22.32	4 52.113	0 58.94	51.705	
	A. 19 .	12.1 16.3	. . 25.0	. . 34.2	46 25.14	3 46.770	1 1.76	33.285	
	A. 23 .	18.5 22.1	. . 31.2	44.8 40.6	46 31.44	5 46.261	1 8.06	62.861	
	23 *d* Merope	1.7 6.2	. . 14.8	28.3 24.0	54 15.00	1 43.729			
	A. 17 .	0.6 5.0	. . 14.1	27.2 23.0	55 13.98	4 52.470	0 58.98	51.734	
	A. 19 .	3.6 8.0	. . 16.8	30.1 25.9	55 16.88	3 47.039	1 1.88	33.226	
	A. 23 .	10.1 14.4	. . 23.2	36.5 32.2	0 55 23.28	5 46.552	1 8.28	62.824	
	23 *d* Merope	9.8 14.3	. . 23.2	36.6 32.3	1 0 23.24	1 43.760			
	A. 17 .	8.9 13.2	. . 22.4	35.6 32.0	1 22.42	4 52.428	0 59.18	51.661	
	A. 19 .	11.8 16.3	. . 25.2	38.5 34.2	1 25.20	3 47.125	1 1.96	33.281	
	A. 23 .	18.4 22.5	. 31.6	44.9 40.6	1 1 31.60	5 46.780	+1 8.36	— 63.021	(Continued.)

PLEIADES.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.	
		A.	B.	C.	Mean.		Δ *a*	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 4	23 *d* Merope	36.2	. .	2.5				
		40.5	49.2	58.3	1 4 49.34	1 43.883		
	A. 17 .	35.0	. .	1.5				
F.		39.2	48.2	57.2	5 48.22	4 52.739	+0 58.88	— 51.849
	A. 19 .	38.2	. .	4.5				
		42.2	51.2	0.1	5 51.24	3 47.213	1 1.90	33.246
	A. 23	44.2	. .	10.8				
		48.4	57.4	6.6	1 5 57.48	5 46.812	+1 8.14	— 62.930
Nov. 5	A. 23	18.2	26.8	36.2	0 0 27.07	1 43.972		
	A. 25	26.9	36.1	45.8	0 36.27	2 42.730	+0 9.20	— 15.889
	A. 26	33.2	42.4	51.4	0 42.33	3 45.460	0 15.26	31.404
	A. 28	11.8	20.7	29.8	1 20.77	5 43.843	0 53.70	59.872
F.								
	A. 23	50.0	58.6	7.6	4 58.73	1 44.155		
	A. 25	59.7	8.7	17.7	5 8.70	2 43.359	0 9.97	16.335
	A. 26	5.1	14.2	23.2	5 14.17	3 46.027	0 15.44	31.788
	A. 28	43.5	52.4	1.5	5 52.43	5 44.282	0 53.70	60.128
	A. 23	6.2	15.1	24.1	9 15.13	1 44.300		
	A. 25	15.9	24.7	33.9	9 24.83	2 43.240	0 9.70	16.071
	A. 26	21.2	30.4	39.5	9 30.37	3 45.978	0 15.24	31.594
	A. 28	59.7	8.6	17.8	10 8.70	5 44.125	0 53.57	59.826
	A. 23	51.2	0.2	9.2	14 0.20	1 44.519		
	A. 25	1.2	10.1	19.1	14 10.13	2 43.330	0 9.93	15.942
	A. 26	6.8	15.6	24.6	14 15.67	3 46.365	0 15.47	31.762
	A. 28	45.1	53.8	2.8	14 53.90	5 44.659	0 53.70	60.141
	A. 23	10.6	19.8	28.6	18 19.67	1 44.335		
	A. 25	20.6	28.7	38.3	18 29.20	2 43.578	0 9.53	16.374
	A. 26	25.9	35.1	43.7	18 34.90	3 46.283	0 15.23	31.864
	A. 28	4.4	13.2	22.4	0 19 13.33	5 44.532	+0 53.66	— 60.198
Nov. 5	49 * 11	32.6	41.3	50.6	0 40 41.50	3 34.468	—0 19.27	+ 1.397
	50 * 11	35.3	44.5	53.6	40 44.47	3 36.310	0 16.30	— 0.445
	A. 26	50.9	0.6	9.8	41 0.77	3 35.865		
F.								
	49 * 11	0.1	9.1	18.2	45 9.13	3 34.795	0 19.17	+ 1.247
	50 * 11	3.1	11.9	20.9	45 11.97	3 36.485	—0 16.33	— 0.443
	A. 26	19.5	28.1	37.3	0 45 28.30	3 36.042		
Nov. 5	51 9.5	26.2	35.3	44.2	0 50 35.23	4 38.600	—1 2.24	+ 2.531
	A. 26	28.5	37.4	46.5	0 51 37.47	4 41.131		
F.								
Nov. 14	*d g* Celæno	28.6	37.7	46.9	1 18 37.73	4 44.312		
	52 * 11	17.8	27.1	36.1	19 27.00	3 45.880	+0 49.27	+ 14.645
	20 *c* Maia	29.5	38.5	47.6	19 38.53	3 38.339	1 0.80	19.050
F.								
	d g Celæno	28.9	38.0	47.1	22 38.00	4 44.319		
	52 * 11	18.2	27.3	36.2	23 27.23	3 35.902	0 49.23	14.660
	20 *c* Maia	29.8	38.8	48 0	23 38.87	3 38.585	1 0.87	18.811
	d g Celæno	33.6	43.7	51.8	25 43.03	4 44.559		
	52 * 11	23.4	32.0	40.9	26 32.10	3 45.920	0 49.07	14.438
	20 *c* Maia	34.5	43.6	52.6	1 26 43.57	3 38.396	1 0.54	19.240
Nov. 14	16 *g* Celæno	46.2	55.2	4.6	1 31 55.33	4 44.485		
	52 * 11	35.5	44.7	53.7	32 44.63	3 46.222	0 49.30	14.814
F.	20 *c* Maia	47.3	56.3	5.2	32 56.27	3 38.420	1 0.94	19.142
	16 *g* Celæno	8.3	17.5	26.6	35 17.47	4 44.626		
	52 * 11	57.8	6.7	15.9	36 6.80	3 46.312	0 49.33	14.763
	20 *c* Maia	9.3	18.4	27.6	1 36 18.43	3 38.640	+1 0.96	+ 19.063
Nov. 14	16 *g* Celæno	10.8	19.6	28.6	1 55 19.67	4 32.638		
	19 *e* Taygeta	34.3	43.1	52.1	55 43.17	1 32.641	+0 23.50	+ 41.990
F.	53 11 *	56.1	5.2	14.3	1 56 5.20	1 34.361	+0 45.53	+ 41.270

RESULTS.

Corr. Chron. + 1 32.24 (m. s.)

	a	δ
	h. m. s.	° ′ ″
A. 23	3 39 29.10	+23 15 25.14
A. 26	3 39.44.43	+23 7 19.22

	Δ *a*	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
A. 25—A. 23,	+0 09.67	.00	— 4 7.27	—.09
A. 26—A. 23,	+0 15.33	.00	— 8 5.92	—.18
A. 28—A. 23,	+0 53.67	.00	—15 20.72	—.35
A. 49—A. 26,	—0 19.22		+ 0 20.27	
A. 50—A. 26,	—0 16.31		— 0 6.81	
A. 51—A. 26,	—1 2.24		+ 0 38.82	

(Continued.)

PLEIADES.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Nov. 14	16 *g* Celæno .	51.2	0.4	9.3	1 59 0.30	4 32.942			m. s. Corr. Chron. + 1 56.50
	19 *e* Taygota	14.5	23.6	32.8	59 23.63	1 33.692	+0 23.33	+ 42.243	α δ
	53 11* . .	36.6	45.5	54.5	1 59 45.53	1 34.349	0 45,23	41.586	h. m. s. ° ′ ″
F.									16 *g* Celæno . . . 3 36 48.83 +23 51 43.81
	16 *g* Celæno .	50.5	59.7	8.6	2 1 59.60	4 32.800			
	19 *e* Taygeta	14.1	23.2	31.9	2 23.07	1 33.730	0 23.47	42.063	Δα Δρ Δδ Δρ m. s. s. ′ ″ ″
	53 11* . .	. .	45.2	54.1	2 2 45.17	1 34.402	+0 45.57	+ 41.391	
									(* 52) —16 *g* Celæno, +0 49.24 .00 + 3 44.90 +.07
									20 *c* Maia —16 *g* Celæno, +1 00.82 .00 + 4 52.34 +.09
									19 *e* Taygeta—16 *g* Celæno, +0 23.43 .00 +10 45.67 +.20
									53 —16 *g* Celæno, +0 45.43 .00 +10 35.32 +.20
Nov. 30	A. 54, *10.5	29.5	. .	. .					m. s. Corr. Chron. + 2 42.60
		33.7	42.4	51.8	0 7 42.67	2 32.091	—0 19.57	+ 40.104	α δ h. m. s. ° ′ ″
	η Tauri .	48.9	. .	15.5					
F.		53.4	2.2	11.2	8 2.24	5 29.235			η Tauri . . . . 3 39 29.74 +23 41 7.68
	A. 55, *10	. .	. .	53.1					Δα Δρ Δδ Δρ
		30.8	39.9	49.0	8 39.86	4 37.339	+0 37.62	8.904	m. s. s. ′ ″ ″
	A. 54, *10.5	10.2	. .	. .					(* 54)—η Tauri, —0 19.56 .00 +10 16.47 +.21
		14.4	23.3	32.5	21 23.40	2 31.998	—0 19.60	40.140	55 —η Tauri, +0 37.78 .00 + 2 18.17 +.05
	η Tauri .	29.9	. .	56.2					
		34.1	42.9	51.9	21.43.00	5 29.268			
	A. 55, *10	7.6	. .	34.3					
		11.9	20.7	30.0	22 20.90	4 37.442	+0 37.90	8.834	
	A. 54. *10.5	20.3	. .	46.5					
		24.3	33.4	42.6	26 33.42	2 32.440	—0 19.66	40.272	
	η Tauri .	39.8	. .	6.3					
		44.2	52.9	2.2	26 53.08	5 29.842			
	A. 55, *10	17.6	. .	44.2					
		21.9	30.8	39.9	27 30.88	4 37.581	+0 37.80	9.269	
	A. 54, *10.5	45.7	. .	. .					
		50.2	59.1	8.2	45 59.08	2 32.560	—0 19.48	40.260	
	η Tauri .	5.5	. .	31.7					
		9.6	18.4	27.6	46 18.56	5 29.950			
	A. 55, *10	43.2	. .	9.6					
		47.6	56.5	5.4	0 46 56.46	4 37.929	+0 37.90	+ 9.029	
Nov. 30	η Tauri .	49.4	58.4	7.2	0 56.58.33	1 30.959			Δα Δρ Δδ Δρ m. s. s. ′ ″ ″
	26 *s* . .	17.6	26.4	35.6	58 26.53	5 28.198	+1 28.20	— 57.240	26 *s* —η Tauri, +1 28.26 .00 —14 38.13 —.28
	A. 30 .	33.1	41.8	. .	0 58 41.98	4 38.400	1 43.65	50.434	A. 30— η Tauri, +1 43.62 .00 —12 53.19 —.25
F.									
	η Tauri .	42.3	51.4	0.5	1 0 51.40	1 31.075			
	26 *s* . .	10.6	19.6	28.7	2 19.63	5 28.307	1 28.23	57.233	
	A. 30 .	26.2	35.2	44.2	2 35.20	4 38.369	1 43.80	50.287	
	η Tauri .	27.9	36.9	46.2	4 37.00	1 31.151			
	26 *s* . .	56.2	5.2	14.4	5 5.27	5 28.353	1 28.27	57.203	
	A. 30 .	11.6	20.6	29.6	5 20.60	4 38.569	1 43.60	50.411	
	η Tauri .	33.2	42.3	51.3	9 42.27	1 31.110			
	26 *s* . .	1.6	10.6	19.5	11 10.57	5 28.510	1 28.30	57.401	
	A. 30 .	. .	25.6	34.9	11 25.77	4 38.612	1 43.50	50.495	
	η Tauri .	40.4	49.4	58.7	14 49.50	1 31.195			
	26 *s* . .	8.6	17.7	26.7	16 17.67	5 28.478	1 28.17	57.284	
	A. 30 .	24.2	32.9	41.9	16 33.00	4 38.765	1 43.50	50.563	
	η Tauri .	52.8	1.9	11.1	19 1.93	1 31.509			
	26 *s* . .	21.3	30.2	39.4	20 30.30	5 28.658	1 28.37	57.150	
	A. 30 .	36.7	45.6	54.6	1 20 45.63	4 38.790	+1 43.70	— 50.274	
Nov. 30	27 *f* Atlas .	21.3	30.3	39.3	1 23 30.30	1 42.850			α δ h. m. s. ° ′ ″
	A. 38 .	10.3	19.2	28.4	24 19.30	4 47.190	+0 49.00	— 47.333	27 *f* Atlas . . . . . . 3 41 10.31 +23 38 16.91
F.									
	27 *f* Atlas .	15.9	24.6	33.9	26 24.80	1 42.709			Δα Δρ Δδ Δρ
	A. 38 .	4.7	13.7	22.7	27 13.70	4 47.289	0 48.90	47.573	m. s. s. ′ ″ ″
	27 *f* Atlas .	22.8	31.4	40.7	30 31.63	1 42.750			A. 38—27 *f* Atlas, +0 48.88 .00 —12 9.24 —.23
	A. 38 .	11.5	20.3	29.3	1 31 20.37	4 47.489	+0 48.74	— 47.732	

PLEIADES.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.	
		A.	B.	C.	Mean.		Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Dec. 7	27 *f* Atlas .	4.2	13.6	22.7	7 42 13.50	1 32.732		
F.	A. 38 .	53.7	. .	12.1	43 2.90	4 37.392	+0 49.40	— 47.653
	27 *f* Atlas .	41.2	50.1	59.6	44 50.30	1 32.808		
	A. 38 .	30.1	39.1	48.7	45 39.30	4 37.406	0 49.00	47.591
	27 *f* Atlas .	18.1	27.0	36.0	49 27.03	1 32.960		
	A. 38 .	6.6	15.6	. .	50 15.58	4 37.627	0 48.55	47.660
	27 *f* Atlas .	54.7	3.6	13.0	51 3.77	1 33.059		
	A. 38 .	43.6	52.5	2.2	51 52.77	4 37.735	0 49.00	47.669
	27 *f* Atlas .	22.2	31.3	40.8	55 31.43	1 33.112		
	A. 38 .	10.9	20.2	29.7	56 20.27	4 37.800	0 48.84	47.681
	27 *f* Atlas .	22.3	31.4	40.8	58 31.50	1 33.090		
	A. 38 .	11.3	20.4	30.4	7 59 20.70	4 37.802	0 49.20	47.705
	27 *f* Atlas .	37.1	41.3	55.5	8 1 41.30	1 33.130		
	A. 38 .	. .	30.3	45.0	2 30.55	4 37.842	0 49.25	47.705
	27 *f* Atlas .	30.3	39.1	48.5	4 39.30	1 33.360		
	A. 38 .	. .	28.0	37.0	5 28.00	4 38.085	0 48.70	47.718
	27 *f* Atlas .	11.0	20.3	29.1	9 20.13	1 33.400		
	A. 38 .	59.9	9.0	.	10 8.93	4 38.028	0 48.80	47.621
	27 *f* Atlas .	50.0	59.0	8.1	11 59.10	1 33.389		
	A. 38 .	. .	48.1	57.0	8 12 48.10	4 38.020	+0 49.00	— 47.624
Dec. 7	*56 (* 11) . .	. .	. .	. .	. . .	2 39.542	. . .	+ 24.407
F.	A. 38 .	. .	. .	. .	. . .	4 38.087		
	56 (* 11) . .	. .	. .	. .	. . .	2 39.700	. . .	24.337
	A. 38 .	. .	. .	. .	. . .	4 38.175		
	56 (* 11) . .	. .	. .	. .	8 42 00.00	2 39.712	. . .	24.460
	A. 38 .	. .	. .	. .	. . .	4 38.310		
	56 (* 11) . .	. .	. .	. .	. . .	2 39.755	. . .	24.457
	A. 38 .	. .	. .	. .	. . .	4 38.350		
	56 (* 11) . .	. .	. .	. .	. . .	2 39.730	—0 1.60	+ 24.341
	A. 38 .	. .	. .	. .	. . .	4 38.209		
Dec. 12	16 *g* Celæno .	28.7	37.6	46.6	1 11 37.63	2 54.613		
	(* 57) .	47.4	55.6	4.9	11 55.96	3 47.765	+0 18.33	— 5.937
F.	A. 10, 7 *s* . .	7.2	16.3	25.3	13 16.27	3 48.978	1 38.64	7.150
	16 *g* Celæno .	39.3	48.3	57.3	18 48.30	2 54.760		
	(* 57) .	58.0	6.8	16.1	19 6.97	3 47.900	0 18.67	5.925
	A 10, (* 7.5) .	18.3	27.3	36.3	20 27.30	3 49.060	1 39.00	7.085
	16 *g* Celæno .	47.6	56.6	5.6	23 56.60	2 55.035		
	(* 57) .	6.1	15.2	24.2	24 15.17	3 48.342	0 18.57	6.092
	A. 10, (* 7.5) .	26.6	35.6	44.5	25 35.57	3 49.202	1 38.97	6.952
	16 *g* Celæno .	4.9	13.9	22.8	29 13.87	2 55.069		
	(* 57) .	23.3	32.3	41.3	29 32.30	3 48.259	0 18.43	5.975
	(* 58) .	1.2	10.2	19.2	30 10.20	4 45.098	0 56.33	15.891
	A. 10 .	43.7	52.8	1.9	30 52.80	3 49.535	1 38.93	7.251
	16 *g* Celæno .	40.5	49.5	58.6	35 49.53	2 55.272		
	(* 57) .	59.0	8.2	16.9	36 8.03	3 48.565	0 18.50	6.078
	(* 58) .	36.9	46.0	54.9	36 45.93	4 45.367	0 56.40	15.957
	A. 10 .	19.5	28.4	37.5	37 28.47	3 49.450	1 38.94	6.963
	16 *g* Celæno .	34.3	43.1	52.1	41 43.17	2 55.340		
	(* 57) .	52.5	1.5	10.3	42 1.43	3 48.662	0 18.26	6.107
		30.2	39.3	48.2	42 39.23	4 45.553	0 56.06	16.075
		13.0	21.8	30.9	43 21.90	3 49.723	1 38.73	— 7.168
	(* 59) .	. .	38.5	. .	1 43 38.50	2 49.285	+1 55.33	+ 6.055

RESULTS.

Corr. Chron. + 2 53.07 (m. s.)

	α (h. m. s.)	δ (° ′ ″)
27 *f* Atlas	3 41 10.34	+22 38 17.08

	Δ α (m. s.)	Δ ρ (s.)	Δ δ (′ ″)	Δ ρ (″)
A. 38—27 *f* Atlas,	+0 49.10	.00	—12 11.02	+.24

	α (h. m. s.)	δ (° ′ ″)
A. 38, ...	3 41 59.4	+23 26 6.06

	Δ α (m. s.)	Δ ρ (s.)	Δ δ (′ ″)	Δ ρ (″)
A. 56—A. 38,	—0 1.60	.00	+ 6 11.17	+.11

Corr. Chron. + 3 12.38 (m. s.)

	α (h. m. s.)	δ (° ′ ″)
16 *g* Celæno	3 36 48.76	+23 51 44.24

	Δ α (m. s.)	Δ ρ (s.)	Δ δ (′ ″)	Δ ρ (″)
(* 57)—16 *g* Celæno,	+0 18.46	.00	—1 32.31	—.03
A. 10—16 *g* Celæno,	—1 38.87	.00	—1 48.82	—.03
(* 58)—16 *g* Celæno,	+0 56.26	.00	—4 4.99	—.09
(* 59)—16 *g* Celæno,	+1 55.33	.00	+1 32.87	—.03
(* 60)—16 *g* Celæno,	—0 23.01	.00	+6 19.22	+.11
(* 61)—16 *g* Celæno,	—1 5.20	.00	—4 59.86	—.09

(Continued.)

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* 56 precedes A. 38 1.6 seconds.

PLEIADES.

DATE.	OBJECTS	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ a	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Dec. 12	60 (* 9) . .	22.4	31.3	40.5	1 47 31.40	1 48.320	—0 23.00	+ 24.604	
	Celæno . .	45.5	54.2	3.5	47 54.40	3 43.008			
F.									
	61 (* 8.5) . .	36.2	45.4	54.4	50 45.33	2 36.335	1 5.20	19.551	
	60 (* 9.0) . .	18.4	27.6	36.5	51 27.50	1 48.171	—0 23.03	+ 24.846	
	Celæno . .	41.3	50.6	59.7	1 51 50.53	3 43.101			

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.				
		A.	B.	C.	Mean.		Δ α	Δ mic.					
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.		α h. m. s.		δ ° ′ ″	
Feb. 18	Star C. . . .	28.6	37.4	46.5	5 5 37.50	4 45.113							
		27.0	36.0	44.6	7 35.87	3 42.140	+1 58.37	+ 2.973	Star C.	8 30 1.73		+19 44 6.29	
		2.4	11.2	20.0	8 11.20	4 37.373	2 33.70	20.817					
H.										Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
	Star C. . . .	24.7	33.2	42.1	10 33.33	4 45.147							
		22.7	31.4	40.3	12 31.47	4 42.320	1 58.14	2.827	C. 1,	+1 58.26	.00	+ 0 45.40	+ .02
		58.0	7.0	15.6	13 6.87	3 37.549	2 33.54	20.675	C. 2,	+2 33.58	.00	+ 5 19.52	+ .11
		56.9	5.5	14.4	14 5.60	4 44.805	3 32.27	0.342	C. 3,	+2 53.00	.00	− 1 54.37	− .04
		44.6	53.3	2.0	14 53.30	2 34.731	4 19.97	36.278	C. 4,	+3 32.25	.00	+ 0 8.31	.00
									C. 5,	+4 20.05	.00	+ 9 19.38	+ .19
	Star C. . . .	35.0	43.9	52.3	16 43.73	4 45.528							
		33.0	42.0	51.0	18 42.00	4 42.448	1 58.27	3.080					
		8.3	17.2	26.1	19 17.20	3 37.598	2 33.47	21.007					
		. .	16.0	24.9	20 15.97	4 44.787	3 32.24	0.741					
		55.0	4.0	12.7	21 3.90	2 34.760	4 20.17	+ 36.630					
	Star C. . . .	57.4	6.1	15.0	23 6.17	4 45.807							
		50.4	59.0	8.1	25 59.17	5 36.256	2 53.00	− 7.457					
		17.4	26.1	35.0	5 27 26.17	2 35.164	+4 20.00	+ 36.505					
										α h. m. s.		δ ° ′ ″	
Mar. 8	Star C. . . .	30.0	38.8	47.3	8 57 38.70	5 33.603			Star C.	8 30 1.60		+19 44 6.90	
		28.2	37.0	45.8	8 59 37.03	4 47.784	+1 58.30	+ 2.827					
		23.2	31.9	40.4	9 0 31.83	5 41.026	2 53.13	− 7.423					
		50.1	58.8	7.7	1 58.87	2 39.892	4 20.17	+ 36.581		Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
H.									C. 1,	+1 58.27	.00	+ 0 45.37	+ .02
	Star C. . . .	42.0	50.8	59.6	3 50.80	5 33.724			C. 2,	+2 53.07	.00	− 1 52.95	− .04
		40.3	49.0	57.9	5 49.07	4 47.749	1 58.27	+ 2.983	C. 3,	+4 20.20	.00	+ 9 20.44	+ .20
		35.0	43.9	52.5	6 43.80	5 40.992	2 53.00	− 7.268					
		2.2	11.0	19.9	8 11.03	2 40.073	4 20.23	+ 36.521					
	Star C. . . .	32.9	41.7	50.5	10 41.70	5 33.916							
		31.1	40.0	48.7	12 39.93	4 47.861	1 58.23	+ 3.063					
		26.0	34.7	43.6	13 34.77	5 41.318	2 53.07	− 7.402					
		53.1	1.9	10.7	15 1.90	2 40.265	+4 20.20	+ 36.521					
		34.7	43.3	52.2	30 43.40	2 38.298	−2 21.97	15.357		α h. m. s.		δ ° ′ ″	
	Star B. . . .	56.6	5.4	14.1	33 5.37	3 40.870			Star B.	8 29 54.91		+19 59 12.60	
		6.9	15.5	24.4	35 15.60	3 34.266	+2 10.23	6.604					
		12.6	21.3	30.2	36 21.37	2 37.144	3 16.00	+ 16.511					
		23.3	32.0	41.0	37 32.10	4 33.494	+4 26.73	− 5.701		Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
									B. 1,	−2 21.88	.00	+ 3 55.83	+ .08
		43.5	52.2	1.0	39 52.23	2 38.388	−2 21.87	+ 15.372	B. 2,	+1 6.58	.00	− 0 53.88	− .02
	Star B. . . .	5.3	14.1	22.9	42 14.10	3 40.975			B. 4,	+2 10.29	.00	+ 1 41.55	+ .04
		11.9	20.7	29.7	43 20.77	3 44.423	+1 6.67	− 3.448	B. 5,	+3 15.96	.00	+ 4 14.39	+ .08
		15.7	24.4	33.2	44 24.43	3 34.396	2 10.33	+ 6.579	B. 6,	+4 26.83	.00	− 1 25.95	− .03
		21.3	30.0	38.9	45 30.07	2 37.111	3 15.97	+ 16.649					
		32.1	41.0	49.8	46 40.97	4 33.444	+4 26.87	− 5.546					
		2.8	11.6	20.3	49 11.57	2 38.473	−2 21.80	+ 15.399					
	Star B. . . .	24.7	33.3	42.1	51 33.37	3 41.087							
		31.0	39.9	48.7	52 39.87	3 44.666	+1 6.50	− 3.579					
		35.0	43.6	52.4	53 43.67	3 34.407	2 10.30	+ 6.680					
		40.4	49.3	58.1	54 49.27	2 37.275	3 15.90	+ 16.597					
		51.6	0.2	9.0	9 56 0.27	4 33.574	+4 26.90	− 5.564					
		9.9	18.7	27.6	10 0 18.73	2 45.714	−1 29.50	+ 12.282		α h. m. s.		δ ° ′ ″	
	Star D. . .	39.6	48.2	56.9	1 48.23	3 45.211			Star D.	8 31 19.89		+20 8 53.53	
		55.8	4.4	13.1	3 4.43	3 46.032	+1 16.20	− 0.821					
		19.0	27.5	36.3	5 27.60	5 35.844	+3 39.37	− 20.718		Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
		49.9	58.6	7.4	7 58.63	2 37.737	−3 21.87	+ 20.258	D. 1,	−3 21.82	.00	+ 5 10.32	+ .09
		42.1	51.0	59.9	9 51.00	2 45.674	−1 29.50	+ 12.321	D. 2,	−1 29.48	.00	+ 3 8.84	+ .06
	Star D. . .	11.8	20.4	29.3	11 20.50	3 45.210			D. 3,	+1 16.23	.00	− 0 12.88	.00
		28.0	36.8	45.5	12 36.77	3 46.072	+1 16.27	− 0.862	D. 4,	+2 29.28	.00	− 0 28.76	− .01
		. .	49.9	58.6	13 49.87	4 34.065	+2 29.37	− 1.932	D. 5,	+3 39.33	.00	− 5 16.24	− .10
		14.6	23.3	32.0	17 23.30	2 37.946	−3 21.77	+ 20.208					
		6.8	15.7	24.4	19 15.63	2 45.822	−1 29.44	+ 12.332					
	Star D. . .	36.2	45.0	54.0	20 45.07	3 45.369							
		52.6	1.3	10.0	22 1.30	3 46.206	+1 16.23	− 0.837					
		5.6	14.2	23.0	23 14.27	4 34.110	2 29.20	1.818					
		15.6	24.3	33.2	10 24 24.37	5 35.804	+3 39.30	− 20.520					

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.	
		A.	B.	C.	Mean.		Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 8		40.4	49.1	58.0	10 29 49.17	5 33.549	—3 58.16	— 4.162
		32.8	41.2	50.1	31 41.37	5 41.807	—2 5.96	— 12.420
	Star F. . . .	38.5	47.3	56.2	33 47.33	4 46.395		
		9.7	18.6	27.3	35 18.53	2 37.413	+1 31.20	+ 34.844
H.								
		48.6	57.6	6.2	37 57.47	5 33.388	—3 58.30	— 4.026
		41.1	49.8	58.4	39 49.77	5 41.514	2 6.00	— 12.152
		38.0	46.8	55.7	40 46.83	3 40.722	—1 8.94	+ 18.725
	Star F. . . .	47.1	55.6	4.6	41 55.77	4 46.370		
		47.9	56.6	5.3	42 56.60	5 42.676	+1 0.83	— 13.314
		50.9	59.6	8.5	46 59.67	2 41.960	+5 3.90	+ 30.272
		10.6	19.5	28.3	49 19.47	5 33.438	—3 58.43	— 4.076
		3.2	11.7	20.6	51 11.83	5 41.526	2 6.07	— 12.164
		0.1	9.0	17.8	52 8.97	3 40.704	—1 8.93	+ 18.743
	Star F.	9.0	17.9	26.8	10 53 17.90	4 46.370		
Mar. 12		47.7	56.4	5.3	6 47 56.47	3 42.982	—2 32.90	— 0.162
		17.6	26.4	35.3	49 26.43	3 45.260	—1 2.94	2.440
	Star G. . . .	20.6	29.3	38.2	50 29.37	3 42.820		
		28.3	37.2	46.0	51 37.17	5 32.256	+1 7.80	19.521
H.								
		14.0	22.9	31.8	54 22.90	3 43.055	—2 33.03	0.234
		44.0	52.9	1.7	55 52.87	3 45.370	—1 3.06	2.549
	Star G. . .	47.1	55.9	4.8	56 55.93	3 42.821		
		54.9	3.7	12.4	58 3.67	5 32.327	+1 7.74	— 19.591
		1.1	10.0	18.8	6 59 9.97	3 34.635	+2 14.04	+ 8.186
		55.1	3.8	12.7	7 1 3.87	3 43.116	—2 33.00	— 0.263
		25.1	34.0	42.9	2 34.00	3 45.489	—1 2.87	2.636
	Star G. . . .	28.1	36.9	45.6	3 36.87	3 42.853		
		36.0	44.6	53.4	4 44.67	5 32.350	+1 7.80	— 19.582
		42.2	51.1	59.6	5 50.97	3 34.714	+2 14.10	+ 8.139
		38.0	46.7	55.6	9 46.77	3 35.686	—1 20.76	27.623
	Star E. . . .	58.8	7.4	16.4	11 7.53	5 33.224		
		8.1	17.0	25.8	12 16.97	2 32.950	+1 9.44	43.144
		9.4	18.0	27.0	13 18.13	4 31.736	2 10.60	18.496
		51.9	0.6	9.7	15 0.73	3 36.530	3 53.20	26.779
		44.5	53.2	2.0	15 53.23	3 32.835	+4 45.70	30.474
		33.1	42.0	50.8	18 41.97	3 35.891	—1 20.76	27.570
	Star E. . . .	53.8	2.8	11.6	20 2.73	5 33.376		
		3.1	12.0	20.9	21 12.00	2 33.220	+1 9.27	43.026
		4.4	13.1	22.1	22 13.20	4 31.890	2 10.47	18.494
		47.0	55.9	4.7	23 55.87	3 36.829	3 53.14	26.632
		39.5	48.2	57.1	24 48.27	3 33.004	+4 45.54	30.457
		46.2	55.0	3.8	26 55.00	3 35.949	—1 20.83	27.640
	Star E. . . .	7.0	15.9	24.6	28 15.83	5 33.504		
		16.2	25.2	34.1	29 25.17	2 33.156	+1 9.34	43.218
		17.8	26.7	35.3	30 26.60	4 32.058	2 10.77	18.454
		0.4	9.1	17.9	32 9.13	3 36.956	3 53.30	26.633
		52.7	1.6	10.1	33 1.47	3 33.231	4 45.64	30.358
	Star C. . . .	30.0	38.9	47.7	38 38.87	5 53.510		
		8.7	17.4	26.3	41 17.47	2 45.662	2 38.60	50.718
		50.1	59.0	7.9	42 59.00	3 47.100	4 20.13	36.495
		49.7	58.5	7.3	43 58.50	3 40.240	5 19.63	43.355
	Star C . .	44.0	52.6	1.6	45 52.73	5 53.510		
		22.4	31.3	40.1	48 31.27	2 45.751	2 38.54	50.629
		4.0	12.8	21.6	50 12.80	3 47.135	4 20.07	36.460
		3.3	12.1	21.1	51 12.17	3 40.236	5 19.44	43.359
	Star C. . . .	48.9	57.7	6.4	52 57.67	5 53.544		
		27.4	36.1	45.1	55 36.20	2 45.862	2 38.53	50.552
		8.9	17.6	26.4	57 17.63	3 47.160	4 19.96	36.469
		8.3	17.2	26.0	7 58 17.17	3 40.336	+5 19.50	+ 43.293

RESULTS.

	α	δ
	h. m. s.	° ′ ″
Star F.	8 31 56.32	+20 15 5.32

	△ α	△ ρ	△ δ	△ ρ
	m. s.	s.	′ ″	″
F. 1,	—3 58.30	.00	— 1 2.70	— .02
F. 2,	—2 6.01	.00	— 3 7.80	— .06
F. 3,	—1 8.94	.00	+ 4 47.26	+ .10
F. 4,	+1 0.83	.00	— 3 24.20	— .07
F. 5,	+1 31.20	.00	+ 8 54.36	+ .17
F. 6,	+5 3.90	.00	+ 7 44.29	+ .15

	α	δ
	h. m. s.	° ′ ″
Star G.	8 32 19.40	+20 28 54.84

	△ α	△ ρ	△ δ	△ ρ
	m. s.	s.	′ ″	″
G. 1,	—2 32.98	.00	— 0 3.37	.00
G. 2,	—1 2.96	.00	— 0 38.99	— .01
G. 3,	+1 7.78	.00	— 5 0.07	— .10
G. 4,	+2 14.07	.00	+ 2 5.18	+ .02

	α	δ
	h. m. s.	° ′ ″
Star E.	8 31 55.25	+20 33 34.86

	△ α	△ ρ	△ δ	△ ρ
	m. s.	s.	′ ″	″
E. 1,	—1 20.78	.00	+ 7 3.48	+ .14
E. 2,	+1 9.35	.00	+11 1.49	+ .22
E. 3,	+2 10.61	.00	+ 4 43.45	+ .09
E. 4,	+3 53.21	.00	+ 6 49.22	+ .13
E. 5,	+4 45.63	.00	+ 7 46.71	+ .15

	α	δ
	h. m. s.	° ′ ″
Star C.	8 30 1.55	+19 44 7.06

	△ α	△ ρ	△ δ	△ ρ
	m. s.	s.	′ ″	″
C. 1,	+2 38.56	.00	+12 56.57	+ .25
C. 2,	+4 20.05	.00	+ 9 19.44	+ .18
C. 3,	+5 19.52	.00	+11 4.66	+ .22

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.	
		A.	B.	C.	Mean.		Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1864. Mar. 12		49.1	58.0	6.7	8 0 57.93	3 45.430	−2 21.90	+ 15.491
	Star B. . . .	11.0	19.8	28.7	3 19.83	4 47.944		
		17.6	26.2	35.2	4 26.33	5 34.372	+1 6.50	− 3.436
		21.2	30.2	39.0	5 30.13	4 41.418	2 10.30	+ 6.526
		27.1	36.0	44.7	6 35.93	3 44.455	3 16.10	16.566
		15.6	24.2	33.2	8 24.33	3 43.512	+5 4.50	+ 17.509
H.		29.0	37.7	46.4	10 37.70	3 45.802	−2 21.88	15.444
		11.6	20.5	29.3	12 20.47	3 41.204	−0 39.11	+ 20.042
		57.1	6.0	14.9	14 6.00	5 34.540	+1 6.42	− 3.379
		1.0	9.7	18.6	15 9.77	4 41.578	2 10.19	+ 6.591
		6.8	15.4	24.3	16 15.50	3 44.684	3 15.92	16.562
		55.1	4.0	13.0	18 4.03	3 43.690	+5 4.45	17.556
		29.2	37.9	46.8	19 37.97	3 46.270	−2 21.86	+ 15.398
	Star B. . . .	51.1	59.8	8.6	21 59.83	4 48.591		
		57.7	6.4	15.2	23 6.43	5 35.024	+1 6.60	− 3.441
		1.5	10.2	19.0	24 10.23	4 42.020	2 10.40	+ 6.571
		7.1	15.8	24.7	25 15.87	3 45.033	3 16.04	16.635
		55.5	4.3	13.1	27 4.30	3 44.050	+5 4.47	17.618
		35.2	44.0	52.9	56 44.03	3 41.597	−1 52.30	+ 7.920
	Star A. . . .	27.6	36.3	45.1	8 58 36.33	4 36.440		
		57.1	5.9	14.8	9 0 5.93	5 31.679	+1 29.60	− 12.247
		14.2	23.0	32.0	1 23.07	2 36.470	2 46.74	+ 25.832
		26.3	35.1	44.0	2 35.13	5 33.536	+3 58.80	− 14.102
		36.7	45.5	54.4	4 45.53	3 41.746	−1 52.37	+ 7.951
	Star A. . . .	29.1	37.9	46.7	6 37.90	4 36.620		
		58.8	7.4	16.2	8 7.47	5 31.846	+1 29.57	− 12.234
		15.8	24.6	33.7	9 24.70	2 36.657	2 46.80	+ 25.825
		27.9	36.6	45.5	10 36.67	5 33.754	+3 58.77	− 14.142
		32.2	41.0	50.0	13 41.07	3 41.892	−1 52.30	+ 7.913
	Star A. . . .	24.6	33.3	42.2	15 33.37	4 36.728		
		54.1	3.0	11.9	17 3.00	5 31.962	+1 29.63	− 12.242
		11.2	20.1	28.9	18 20.07	2 36.794	2 46.70	+ 25.796
		23.4	32.2	41.0	19 32.20	5 33.855	+3 58.83	− 14.135
		3.4	12.2	21.1	23 12.23	2 35.216	−2 33.04	0.148
		7.8	16.5	25.3	24 16.53	2 40.256	−1 28.74	5.188
	Star G. . . .	36.6	45.1	54.1	25 45.27	2 35.068		
		27.3	36.1	45.0	26 36.13	3 39.023	+0 50.86	16.740
		20.9	29.7	33.5	27 29.70	4 39.704	+1 44.43	30.498
		3.1	12.0	20.9	30 12.00	2 35.333	−2 33.07	0.132
		7.5	16.2	25.1	31 16.27	2 40.314	−1 28.80	5.113
	Star G. . . .	36.2	45.0	54.0	32 45.07	2 35.201		
		27.1	36.0	44.9	33 36.00	3 39.038	+0 50.93	16.622
		20.7	29.5	38.3	34 29.50	4 39.791	+1 44.43	30.452
		53.3	2.1	11.0	36 2.13	2 35.340	−2 32.97	0.174
		57.8	6.4	15.2	37 6.47	2 40.341	−1 28.63	5.175
	Star G. . . .	26.2	35.1	44.0	38 35.10	2 35.166		
		17.2	26.1	35.0	39.26.10	3 39.134	+0 51.00	16.753
		10.8	19.5	28.4	40 19.57	4 39.828	+1 44.47	− 30.524
		42.6	51.4	0.3	44 51.43	2 45.223	−3 23.47	+ 14.593
		57.0	5.8	14.5	46 5.77	5 35.284	2 9.13	− 18.338
		45.3	54.1	3.0	46 54.13	2 32.194	1 20.77	+ 27.622
	Star E. . . .	6.0	14.9	23.8	48 14.90	3 47.031		
		12.1	21.0	29.8	50 20.97	2 45.275	3 23.30	+ 14.550
		26.3	35.1	44.0	51 35.13	5 35.324	2 9.14	− 18.369
		14.7	23.4	32.2	52 23.43	2 32.113	1 20.84	+ 27.712
	Star E. . . .	35.5	44.2	53.1	53 44.27	3 47.040		
		36.1	45.0	54.0	55 45.03	2 45.355	3 23.44	+ 14.534
		50.5	59.2	8.3	56 59.33	5 35.341	2 9.14	− 18.322
		39.0	47.7	56.7	57 47.80	2 32.159	−1 20.67	+ 27.730
	Star E. . . .	59.6	8.5	17.3	9 59 8.47	3 47.104		

RESULTS.

	α h. m. s.	δ ° ′ ″
Star B.	8 29 54.87	+19 59 12.35

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
B. 1,	−2 21.88	.00	+ 3 56.87	+ .07
B. 2,	−0 39.11	.00	+ 5 7.39	+ .10
B. 3,	+1 6.51	.00	− 0 52.44	− .02
B. 4,	+2 10.30	.00	+ 1 40.86	+ .04
B. 5,	+3 16.02	.00	+ 4 14.42	+ .07
B. 6,	+5 4.47	.00	+ 4 29.34	+ .08

	α h. m. s.	δ ° ′ ″
Star A.	8 29 50.48	+20 12 6.03

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
A. 1,	−1 52.32	.00	+ 2 1.59	+ .04
A. 2,	+1 29.60	.00	− 3 8.00	− .06
A. 3,	+2 46.75	.00	+ 6 35.90	+ .13
A. 4,	+3 58.80	.00	− 3 36.66	− .07

	α h. m. s.	δ ° ′ ″
Star G.	8 32 19.40	+20 28 54.94

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
G. 5,	−2 33.03	.00	− 0 2.32	.00
G. 6,	−1 28.72	.00	− 1 19.14	− .02
G. 7,	+0 50.93	.00	− 4 16.21	− .08
G. 8,	+1 44.44	.00	− 7 47.65	− .15

	α h. m. s.	δ ° ′ ″
Star E.	8 31 55.25	+20 33 35.03

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
E. 6,	−3 23.40	.00	+ 3 43.30	+ .07
E. 7,	−2 9.14	.00	− 4 41.33	− .09
E. 8,	−1 20.76	.00	+ 7 4.66	+ .14

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Mar. 12		53.9	2.8	11.6	10 5 2.77	2 38.352	−2 6.03	+ 30.460
	Star N. . . .	0.0	8.8	17.6	7 8.80	4 42.950		
		11.0	19.6	28.7	8 19.77	5 34.164	+1 10.97	− 8.222
		30.1	38.9	47.8	9 38.93	3 40.471	2 30.13	+ 15.556
		31.1	40.0	49.0	10 40.03	5 35.000	+3 31.23	− 9.058
H.		43.1	52.0	1.0	12 52.03	2 38.336	−2 5.97	+ 30.480
	Star N. . . .	49.1	58.0	6.9	14 58.00	4 42.954		
		0.0	8.9	18.0	16 8.97	5 34.230	+1 10.97	− 8.284
		19.5	28.2	37.0	17 28.23	3 40.464	2 30.23	+ 15.567
		20.6	29.2	38.2	18 29.33	5 34.975	+3 31.33	− 9.029
		54.3	3.2	12.1	20 3.20	2 38.467	−2 6.07	+ 30.414
	Star N. . . .	0.6	9.2	18.0	22 9.27	4 43.019		
		11.3	20.2	29.1	23 20.20	5 34.276	+1 10.93	− 8.265
		30.7	39.3	48.2	24 39.40	3 40.507	2 30.13	+ 15.589
		31.7	40.5	49.4	10 25 40.53	5 35.062	+3 31.26	− 9.051
Mar. 23	B. A. C. 2899 .	22.4	31.3	40.2	9 55 31.30	3 41.305		
	(* 1) . . .	31.2	39.7	48.4	56 39.77	4 43.668	+1 8.47	− 15.440
	(* 2) . . .	. .	29.4	38.2	57 29.35	3 38.271	1 58.05	+ 3.034
	(* 3) . . .	. .	24.3	33.2	58 24.30	4 35.616	2 53.00	− 7.388
	(* 4) . . .	13.3	21.7	30.5	9 59 21.83	5 38.139	3 50.53	− 27.919
F.	B. A. C. 2899 .	45.6	54.3	3.4	10 3 54.43	3 41.301		
	(* 2) . . .	43.7	52.5	1.5	5 52.57	3 38.295	1 58.14	+ 3.006
	(* 3) . . .	39.0	47.5	56.3	6 47.60	4 35.783	2 53.17	− 7.559
	B. A. C. 2899 .	0.9	9.6	18.5	10 9.67	3 41.312		
	(* 2) . . .	58.9	7.9	17.0	12 7.93	3 38.283	1 58.26	+ 3.029
	(* 3) . . .	54.2	2.8	11.8	13 2.93	4 35.830	2 53.26	− 7.595
	(* 5) . . .	20.6	29.5	38.5	14 29.53	1 34.799	4 19.86	+ 36.429
	B. A. C. 2899 .	50.4	59.2	8.3	16 59.30	3 41.390		
	(* 2) . . .	48.6	57.4	6.3	18 57.43	3 38.442	1 58.13	+ 2.948
	(* 3) . . .	43.7	52.3	1.2	19 52.40	4 35.750	2 53.10	− 7.437
	(* 5) . . .	10.5	19.2	28.2	21 19.30	1 34.845	4 20.00	+ 36.461
	B. A. C. 2899 .	29.6	38.2	47.3	23 38.37	3 41.336		
	(* 2) . . .	27.9	36.5	45.5	25 36.63	3 38.260	1 58.26	+ 3.076
	(* 3) . . .	22.9	31.5	40.3	26 31.57	4 35.759	2 53.20	− 7.500
	(* 5) . . .	49.3	58.2	7.3	27 58.27	1 34.925	4 19.90	+ 36.327
	B. A. C. 2899 .	40.3	49.2	58.0	30 49.17	3 41.370		
	(* 2) . . .	38.6	47.4	56.2	32 47.40	3 38.461	1 58.23	+ 2.909
	(* 3) . . .	33.7	42.2	51.0	33 42.30	4 35.820	2 53.13	− 7.527
	(* 5) . . .	0.4	9.0	18.2	35 9.20	1 34.961	4 20.03	+ 36.325
	B. A. C. 2899 .	40.0	48.6	57.4	36 48.67	3 41.371		
	(* 2) . . .	38.1	46.7	55.7	38 46.83	3 38.305	1 58.16	+ 3.066
	(* 3) . . .	33.0	41.7	50.5	39 41.73	4 35.822	2 53.06	− 7.528
	(* 5) . . .	59.6	8.4	17.3	41 8.43	1 34.870	4 19.76	+ 36.417
	B. A. C. 2899 .	0.0	8.8	17.5	43 8.77	3 41.451		
	(* 2) . . .	58.2	6.9	15.9	45 7.00	3 38.370	1 58.23	+ 3.081
	(* 3) . . .	53.2	2.0	10.7	46 1.97	4 35.989	2 53.20	− 7.615
	(* 5) . . .	19.9	28.7	37.6	47 28.73	1 34.915	4 19.96	+ 36.452
	B. A. C. 2899 .	7.9	16.4	25.2	55 16.50	3 41.550		
	(* 2) . . .	6.1	14.8	23.4	57 14.77	3 38.425	1 58.27	+ 3.125
	(* 3) . . .	0.8	9.5	18.5	58 9.60	4 35.983	2 53.10	− 7.510
	(* 5) . . .	27.5	36.4	45.4	10 59 36.43	1 35.035	4 19.93	+ 36.431
	B. A. C. 2899 .	44.5	53.2	2.2	11 0 53.30	3 41.508		
	(* 2) . . .	42.8	51.4	0.3	2 51.50	3 38.538	1 58.20	+ 2.970
	(* 3) . . .	37.6	46.3	55.3	3 46.40	4 35.803	2 53.10	− 7.372
	(* 5) . . .	4.6	13.2	22.2	5 13.33	1 35.212	4 20.03	+ 36.212
	B. A. C. 2899 .	49.9	58.8	7.2	6 58.63	3 41.672		
	(* 2) . . .	48.[illegible]	56.7	5.6	8 56.87	3 38.510	1 58.24	+ 3.162
	(* 3) . . .	43.1	51.7	0.5	9 51.77	4 35.951	2 53.14	− 7.356
	(* 5) . . .	9.8	18.5	27.5	11 11 18.60	1 35.185	+4 19.97	+ 36.403

RESULTS.

	α	δ
	h. m. s.	° ′ ″
Star N.	8 30 34.52	+20 40 30.82

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
N. 1,	−2 6.02	.00	+ 7 47.03	+ .15
N. 2,	+1 10.96	.00	− 2 6.64	− .04
N. 3,	+2 30.16	.00	+ 3 58.82	+ .08
N. 4,	+3 31.27	.00	− 2 18.71	− .04

	α	δ
	h. m. s.	° ′ ″
B. A. C. 2899	8 30 0.93	+19 39 52.45

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
(* 1)	+1 8.47	.00	− 3 56.81	− .04
(* 2)	+1 58.20	.00	+ 0 46.30	+ .01
(* 3)	+2 53.14	.00	− 1 54.91	− .04
(* 4)	+3 50.53	.00	− 7 8.20	− 14
(* 5)	+4 19.93	.00	+ 9 17.95	+ .18

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
Mar. 23	B. A. C. 2899 .	35.5	44.1	53.0	11 12 44.20	3 41.445			
	(* 2) . .	33.6	42.3	51.4	14 42.43	3 38.541	+1 58.23	+ 2.904	
	(* 3) . . .	28.8	37.3	46.0	15 37.37	4 35.880	2 53.17	— 7.512	
F.	(* 5) . . .	55.4	3.8	12.9	11 17 4.03	1 35.025	+4 19.83	+ 36.336	
Mar. 24	Star C. . . .	11.1	19.8	28.7	7 26 19.87	4 33.640			α δ h. m. s. ° ′ ″ Star C. . . . . 8 30 1.39 +19 44 7.77
		9.3	18.1	26.9	28 18.10	3 43.632	+1 58.23	+ 3.085	
H.		44.4	53.4	2.3	28 53.37	2 38.652	2 33.50	20.850	Δ α Δ ρ ′ Δ δ ″ Δ ρ ″ m. s. s.
	Star C. . . .	26.8	35.6	44.4	32 35.60	4 33.683			C. 1, +1 58.18 .00 + 0 47.01 + .02
		25.0	33.7	42.6	34 33.77	3 43.698	1 58.17	3.062	C. 2, +2 33.56 .00 + 5 19.42 + .10
		0.3	9.1	18.0	35 9.13	2 38.710	2 33.53	20.835	C. 3, +3 50.49 .09 + 0 37.36 + .01
		26.3	35.1	43.9	36 35.10	3 44.290	3 59.50	2.470	
	Star C. . . .	5.8	14.6	23.6	38 14.67	4 33.758			
		4.1	12.8	21.6	40 12.83	3 43.785	1 58.16	3.050	
		39.4	48.4	57.1	40 48.30	2 38.817	2 33.63	20.803	
		5.2	14.2	23.0	42 14.13	3 44.424	3 59.46	2.411	
	Star C. . . .	0.8	9.5	18.3	44 9.53	4 33.789			
		59.0	7.7	16.4	46 7.70	3 43.805	1 58.17	3.061	
		34.3	43.1	51.9	46 43.10	2 38.835	2 33.57	20.816	
		0.2	9.1	17.8	48 9.03	3 44.438	3 59.50	2.428	
	Star C. . . .	13.1	21.8	30.7	51 21.87	5 32.740			α δ h. m. s. ° ′ ″ Star C. . . . . 8 30 1.39 +19 44 7.77
		33.1	42.0	51.0	55 42.03	2 39.230	4 20.16	36.380	
	Star C. . . .	14.1	23.0	32.0	57 23.03	5 32.767			Δ α Δ ρ ′ Δ δ ″ Δ ρ ″ m. s. s.
		17.6	26.2	35.2	7 59 26.33	1 27.261	2 3.30	65.507	C. 4, +2 3.51 .00 +16 45.70 + .33
		34.2	43.0	51.8	8 1 43.00	2 39.214	4 19.97	36.423	C. 5, +4 20.09 .00 + 9 19.29 + .17
	Star C. . . .	36.8	45.2	54.2	3 45.40	5 32.920			
		40.1	49.0	57.9	5 49.00	1 27.319	2 3.60	65.602	
		56.7	5.5	14.3	7 5.50	2 39.287	4 20.10	36.503	
	Star C. . . .	28.2	37.0	45.7	9 36.97	5 33.019			
		31.8	40.6	49.4	11 40.60	1 27.413	2 3.63	65.607	
		48.2	57.1	6.0	13 57.10	2 39.333	+4 20.13	36.556	
	Star I . . .	9.2	17.9	26.8	20 17.97	1 46.835			α δ h. m. s. ° ′ ″ Star I. . . . . 8 32 34.95 +19 49 27.18
		39.2	48.0	57.0	20 48.07	4 48.694	—0 30.10	44.852	
	Star I . . .	57.6	6.5	15.3	23 6.47	1 46.803			Δ α Δ ρ ′ Δ δ ″ Δ ρ ″ m. s. s.
		27.8	36.5	45.2	23 36.50	4 48.725	0 30.03	44.915	I. 1, —0 30.03 .00 +11 27 37 + .21
	Star I . . .	26.1	35.0	43.9	25 35.00	1 46.920			
		56.2	5.1	13.8	26 5.03	4 48.682	0 30.03	44.755	
	Star I . . .	29.2	38.0	46.9	28 38.03	1 46.906			
		59.3	7.9	16.7	29 7.97	4 48.660	—0 29.94	44.747	
	Star B. . . .	11.7	20.6	29.3	34 20.53	3 43.434			α δ h. m. s. ° ′ ″ Star B. . . . . 8 29 54.69 +19 59 13.45
		21.7	30.7	39.4	36 30.60	3 36.882	+2 10.07	6.552	
		58.3	7.2	15.9	37 7.13	3 35.525	2 46.60	+ 7.909	
		38.5	47.2	56.0	38 47.23	5 35.889	4 26.70	— 22.540	Δ α Δ ρ ′ Δ δ ″ Δ ρ ″ m. s. s.
									B. 1, +2 10.30 .00 + 1 41.32 + .03
	Star B. . . .	36.3	45.2	54.1	41 45.20	3 43.510			B. 2, +2 46.71 .00 + 2 1.63 + .04
		47.0	55.8	4.3	43 55.70	3 36.898	2 10.50	+ 6.612	B. 3, +4 26.87 .00 — 5 45.15 — .11
		23.2	32.0	40.8	44 32.00	3 35.573	2 46.80	+ 7.937	
		3.3	12.0	21.0	46 12.10	5 35.912	4 26.90	— 22.487	
	Star B. . . .	43.6	52.3	1.2	47 52.37	3 43.506			
		54.0	2.7	11.4	50 2.70	3 36.853	2 10.33	+ 6.653	
		30.3	39.1	47.9	50 39.10	3 35.562	2 46.73	+ 7.944	
		10.6	19.4	28.1	8 52 19.37	5 35.907	+4 27.00	— 22.486	
		22.1	31.0	39.9	9 4 31.00	3 41.674	—2 4.17	— 18.249	
	Star D. . . .	26.4	35.1	44.0	6 35.17	2 36.210			
		42.6	51.4	0.2	7 51.40	2 37.116	+1 16.23	+ 0.906	
		25.7	4.2	13.3	9 4.40	2 38.162	2 29.23	+ 1.952	
		5.6	14.6	23.3	9 10 14.50	3 44.061	+3 39.33	— 20.636	

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.				
		A.	B.	C.	Mean.		Δ α	Δ mic.					
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.		α		δ	
Mar. 24		29.5	38.2	47.2	9 12 38.30	3 41.745	—2 4.13	— 18.236		h. m. s.		° ′ ″	
	Star D. . . .	33.5	42.6	51.2	14 42.43	2 36.294			Star D.	8 31 19.68		+20 8 54.45	
		49.9	58.7	7.5	15 58.70	2 37.168	+1 16.27	+ 0.874					
		3.0	11.7	20.6	17 11.77	2 38.226	2 29.34	+ 1.932		Δ α	Δ ρ	Δ δ	Δ ρ
		13.0	21.8	30.7	18 21.83	3 44.063	+3 39.40	— 20.554		m. s.	s.	′ ″	″
H.									D. 1,	—2 4.18	.00	— 4 39.51	— .05
		56.7	5.6	14.3	20 5.53	3 42.366	—2 4.24	— 18.188	D. 2,	+1 16.23	.00	+ 0 13.57	.00
	Star D. . .	1.0	9.8	18.5	22 9.77	2 36.963			D. 3,	+2 29.28	.00	+ 0 29.55	+ .01
		17.1	25.9	34.9	23 25.97	2 37.838	+1 16.20	+ 0.875	D. 4,	+3 39.33	.00	— 5 15.96	— .11
		30.2	39.0	47.9	24 39.03	2 38.880	2 29.26	+ 1.917					
		40.2	49.0	57.9	25 49.03	3 44.792	3 39.26	— 20.614		α		δ	
										h. m. s.		° ′ ″	
	Star A. . . .	32.8	41.5	50.3	36 41.53	2 43.674			Star A.	8 29 50.32		+20 12 6.43	
		38.7	47.4	55.3	38 47.47	2 31.688	2 5.94	+ 11.986					
		18.6	27.4	36.2	39 27.40	4 30.991	2 45.87	— 13.179		Δ α	Δ ρ	Δ δ	Δ ρ
		31.6	40.5	49.2	40 40.43	3 45.128	3 58.90	— 14.239		m. s.	s.	′ ″	″
									A. 1,	+2 5.91	.00	+ 3 3.79	+ .06
	Star A. . . .	9.3	18.0	27.1	42 18.13	2 43.615			A. 2,	+2 45.85	.00	— 3 22.15	— .07
		15.2	24.0	32.9	44 24.03	2 31.648	2 5.90	+ 11.967	A. 3,	+3 58.84	.00	— 3 38.22	— .07
		55.2	4.0	12.8	45 4.00	4 30.915	2 45.87	— 13.162					
		8.2	17.0	25.9	46 17.03	3 45.042	3 58.90	— 14.212					
	Star A. . . .	43.0	51.7	0.6	47 51.77	2 43.674							
		48.8	57.6	6.6	49 57.67	2 31.675	2 5.90	+ 11.999					
		28.8	37.6	46.3	50 37.57	4 31.010	2 45.80	— 13.198					
		41.6	50.6	59.3	9 51 50.50	3 45.121	+3 58.73	14.232					
		22.0	31.0	40.0	10 10 31.00	2 32.624	—3 16.63	5.029					
		31.2	40.0	49.0	11 40.07	3 38.581	2 7.56	23.771		α		δ	
		12.0	20.9	29.7	12 20.87	2 37.624	1 26.76	10.029		h. m. s.		° ′ ″	
	Star L. . . .	38.8	47.7	56.4	13 47.63	1 44.726			Star L.	8 34 3.61		+20 21 11.32	
		6.1	14.9	23.8	16 14.93	2 32.760	3 16.54	5.071		Δ α	Δ ρ	Δ δ	Δ ρ
		15.2	24.0	32.9	17 24.03	3 38.637	2 7.44	23.733		m. s.	s.	′ ″	″
		56.0	4.8	13.7	18 4.83	2 37.659	1 26.64	9.970	L. 1,	—3 16.56	.00	— 1 17.61	— .02
	Star L. . . .	22.7	31.4	40.3	19 31.47	1 44.820			L. 2,	—2 7.49	.00	— 6 4.45	— .13
									L. 3,	—1 26.70	.00	— 2 33.43	— .05
		51.1	59.9	8.6	20 59.87	2 32.774	3 16.50	5.079					
		0.0	9.0	17.7	22 8.90	3 38.691	2 7.47	23.781					
		40.9	49.7	58.4	22 49.67	2 37.707	—1 26.70	— 10.012					
	Star L. . . .	7.6	16.3	25.2	24 16.37	1 44.826							
	Star F. . . .	40.2	49.0	57.9	27 49.03	4 44.663							
		54.2	3.2	12.0	29 3.13	2 32.863	+1 14.10	+ 37.662					
		47.9	56.5	5.4	29 56.60	3 33.803	2 7.57	23.937		α		δ	
										h. m. s.		° ′ ″	
	Star F. . . .	1.9	10.5	19.3	32 10.57	4 45.078			Star F.	8 31 56.12		+20 15 6.50	
		16.0	24.8	33.3	33 24.70	2 33.170	1 14.13	37.770					
		9.3	18.1	27.0	34 18.13	3 34.284	2 7.56	23.871		Δ α	Δ ρ	Δ δ	Δ ρ
										m. s.	s.	′ ″	″
	Star F. . . .	48.3	57.1	6.0	35 57.13	4 45.181			F. 1,	+1 14.07	.00	+ 9 38.81	+ .1
		2.2	11.1	20.0	37 11.10	3 33.278	1 13.97	37.765	F. 2,	+2 7.50	.00	+ 6 7.10	+ .12
		55.8	4.5	13.2	38 4.50	2 34.261	+2 7.37	23.997					
		31.9	41.0	49.8	41 40.90	2 37.191	—2 47.23	27.958					
		35.0	43.8	52.7	42 43.83	2 34.662	1 44.30	30.487		α		δ	
		26.0	34.8	43.7	43 34.83	3 38.645	0 53.30	13.719		h. m. s.		° ′ ″	
	Star L. . . .	19.2	28.2	37.0	44 28.13	4 39.287			Star L.	8 34 3.60		+20 21 11.38	
		33.2	42.0	51.0	45 42.07	2 37.271	2 47.26	27.927		Δ α	Δ ρ	Δ δ	Δ ρ
		36.1	45.1	53.9	46 45.03	2 34.770	1 44.30	30.428		m. s.	s.	′ ″	″
		27.1	36.0	44.8	47 35.97	3 38:645	0 53.36	13.768	L. 1,	—2 47.26	.00	+ 7 8.56	+ .14
	Star L. . . .	20.6	29.2	38.2	48 29.33	4 39.336			L. 3,	—1 44.31	.00	+ 7 47.19	+ .15
									L. 4,	—0 53.38	.00	+ 3 30.46	+ .07
		26.9	35.8	44.3	49 35.67	2 37.288	2 47.30	27.942					
		29.8	38.7	47.4	50 38.63	2 34.762	1 44.34	30.468					
		20.8	29.3	38.4	51 29.50	3 38.764	0 53.47	13.681					
	Star L. . . .	. .	23.0	32.0	52 22.97	4 39.368							
		58.5	7.5	16.5	58 7.50	3 35.574	2 2.67	27.607					
		59.7	8.7	17.3	10 59 8.57	3 38.086	—1 1.60	+ 25.095					
	Star G. . .	1.3	10.1	19.1	11 0 10.17	5 33.096							
		48.0	56.9	5.6	11 1 56.83	2 38.954	+1 46.66						

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.				
		A.	B.	C.	Mean.		Δ α	Δ mic.					
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.					
Mar. 24		14.6	23.2	32.1	11 4 23.30	3 35.577	−2 2.63	+ 27.612		α		δ	
		15.6	24.3	33.2	5 24.37	3 38.117	−1 1.56	25.072		h. m. s.		° ′ ″	
	Star G. . . .	17.1	25.9	34.8	6 25.93	5 33.104			Star G.	8 32 19.24		+20 28 55.81	
		3.9	12.7	21.6	8 12.73	2 39.207	+1 46.80						
H.										Δ α	Δ ρ	Δ δ	Δ ρ
		14.3	23.2	32.1	9 23.20	3 35.673	−2 2.77	27.508		m. s.	s.	′ ″	″
		15.5	24.3	32.2	10 24.33	3 38.053	−1 1.64	+ 25.128	G. 1,	−2 2.69	.00	+ 7 2.94	+ .13
	Star G. . . .	17.0	26.0	34.9	11 25.97	5 33.096			G. 2,	−1 1.60	.00	+ 6 4.95	+ .12
		3.9	12.6	21.5	11 13 12.67	2 39.158	+1 46.70		G. 3,	+1 46.72	.00	+ 9 25.38	+ .18
April 18	B. A. C. 2899 .	20.5	29.2	38.0	10 41 29.23	3 41.435				α h. m. s.		δ ° ′ ″	
		28.5	. .	46.0	42 37.25	4 43.760	1 8.02	− 15.402	B. A. C. 2899	8 30 0.50		+19 39 53.50	
		53.5	. .	11.0	44 2.25	1 50.495	2 33.02	+ 20.856					
		52.5	. .	10.5	45 1.50					Δ α	Δ ρ	Δ δ	Δ ρ
F.										m. s.	s.	′ ″	″
	B. A. C. 2899 .	3.2	11.8	21.0	55 12.00	3 41.285				+1 8.42	.00	− 3 59.61	− .08
		11.5	20.0	29.5	56 20.33	4 44.119	1 8.33	− 15.911		+2 33.33	.00	+ 5 18.29	+ .10
		36.6	45.3	54.5	57 45.47	1 50.520	2 33.47	+ 20.681		+3 32.21	.00	+ 0 8.93	.00
		35.3	43.9	53.0	10 58 44.07	3 40.561	3 32.07	+ 0.724					
	B. A. C. 2899 .	20.1	28.0	37.3	11 3 28.37	3 41.222							
		28.7	. .	46.0	4 37.35	4 43.700	1 8.98	− 15.555					
		53.5	1.6	10.8	6 1.97	1 50.416	2 33.60	+ 20.722					
		52.0	0.9	9.3	11 7 0.73	3 40.782	+3 32.36	+ 0.440					
April 21		11.0	19.8	28.7	10 47 19.83	4 44.356	−2 55.04	+ 10.449		α		δ	
		41.6	50.4	59.2	48 50.40	2 38.133	−1 24.47	− 21.636		h. m. s.		° ′ ″	
	Star K. . . .	6.0	15.0	23.6	50 14.87	4 33.907			Star K.	8 32 9.99		+20 1 38.07	
		36.9	45.7	54.6	51 45.73	3 45.355	+1 30.86	− 1.629					
		54.4	3.3	12.1	53 3,27	4 42.023	+2 48.40	+ 8.116		Δ α	Δ ρ	Δ δ	Δ ρ
H.										m. s.	s.	′ ″	″
		31.1	40.0	48.9	54 40.00	4 44.370	−2 54.97	+ 10.356	K. 1,	−2 55.05	.00	+ 3 39.74	+ .07
		1.7	10.8	19.4	56 10.63	2 38.098	−1 24.34	− 21.778	K. 2,	−1 24.40	.00	− 5 32.93	− .10
	Star K. . . .	26.2	34.9	43.8	57 34.97	4 34.014			K. 3,	+1 30.94	.00	− 0 26.27	− .01
		57.1	6.0	14.9	10 59 6.00	3 45.293	+1 31.03	− 1.798	K. 4,	+2 48.45	.00	+ 2 2.12	+ .04
		14.6	23.3	32.5	11 0 23.47	4 41.822	+2 48.50	+ 7.808					
									K. 5,	−2 16 16	.00	− 2 26.81	− .04
		24.0	32.8	41.5	2 32.77	4 44.368	−2 55.13	+ 10.440	K. 6,	−1 9.58	.00	− 3 20.37	− .07
		9.5	18.3	27.1	4 18.30	3 33.914	−1 9.60	− 13.091	K. 7,	+0 59.90	.00	+ 1 47.88	+ .04
	Star K. . . .	19.1	28.0	36.6	5 27.90	4 33.928							
		19.0	28.0	36.7	6 27.90	4 40.950	+1 0.00	+ 7.022		−0 47.64	.00	+ 2 14.74	+ .04
										+0 59.95	.00	+ 1 46.73	+ .03
		1.2	10.1	18.9	8 10.07	3 37.407	−2 16.16	− 9.572					
		7.8	16.7	25.5	9 16.67	3 33.941	−1 9.56	− 13.038					
	Star K. . . .	17.5	26.2	35.0	10 26.23	4 33.902							
		17.1	26.1	34.9	11 26.03	4 40.949	+0 59.80	+ 7.047					
		45.4	54.2	3.0	13 54.20	4 42.815	−0 47.73	8.759					
	Star K. . . .	33.1	42.0	50.7	14 41.93	4 34.056							
		33.0	41.9	50.7	15 41.87	4 40.943	+0 59.94	6.887					
		47.1	56.0	4.8	16 55.97	4 42.749	−0 47.56	8.812					
	Star K. . . .	34.7	43.5	52.4	17 43.53	4 33.937							
		34.7	43.6	52.2	18 43.50	4 40.968	+0 59.97	7.031					
	Star K. . . .	57.0	5.8	14.3	20 5.70	3 44.014							
		33.2	42.2	51.0	20 42.13	3 45.403	0 36.43	1.389					
										m. s.	s.	′ ″	″
	Star K. . . .	46.2	55.2	3.9	21 55.10	3 44.074			K. 8,	+0 36.46	.00	+ 0 20.84	.00
		22.8	31.8	40.3	22 31.63	3 45.464	0 36.53	1.390					
	Star K. . . .	30.4	39.3	48.2	23 39.30	3 44.093							
		7.0	15.7	24.5	24 15.73	3 45.390	0 36.43	1.297					
	Star K. . . .	46.9	55.7	4.5	25 55.70	3 44.086							
		52.6	1.5	10.2	27 1.43	4 41.013	1 5.73	10.004					
										m. s.	s.	′ ″	″
	Star K. . . .	20.7	29.6	38.3	28 29.53	3 44.158			K. 9,	+1 5.72	.00	+ 2 33.19	+ .04
		26.4	35.3	44.1	29 35.27	4 41.051	1 5.74	9.970					
	Star K. . . .	15.0	23.9	32.6	31 23.83	3 44.174							(Continued.)
		1.8	10.6	19.3	11 32 29.57	4 41.086	+1 5.70	+ 9.989					

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.				
		A.	B.	C.	Mean.		Δ a	Δ mic.		Δ a	Δ ρ	Δ δ	Δ ρ
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.		m. s.	s.	′ ″	″
1864. April 21	Star K. . . .	56.0	4.8	13.6	11 34 4.80	3 44.240							
		1.8	10.6	19.3	34 10.57	3 47.211	+0 5.77	+ 2.971	K. 10,	+0 5.76	.00	+ 0 45.40	+ .02
H.	Star K. . . .	28.2	37.0	45.9	35 37.03	3 44.205							
		34.0	42.7	51.6	35 42.77	3 47.099	0 5.74	2.894					
	Star K. . . .	9.0	17.7	26.5	38 17.73	3 44.171							
		14.7	23.5	32.3	38 23.50	3 47.187	0 5.77	3.016		m. s.	s.	′ ″	″
	Star K. . . .	10.2	19.1	28.0	40 19.10	3 44.315			K. 11,	+0 7.13	.00	+ 0 3.02	+ .00
		17.4	26.3	35.0	40 26.23	3 44.544	0 7.13	0.229					
	Star K. . . .	49.5	58.4	7.1	40 58.33	3 44.297							
		56.8	5.4	14.2	41 5.47	3 44.496	0 7.14	0.199					
	Star K. . . .	29.1	37.6	46.4	41 37.70	3 44.312							
		36.0	44.8	53.7	41 44.83	3 44.474	0 7.13	0.162		m. s.	s.	′ ″	″
	Star K. . . .	5.2	14.0	22.9	46 14.03	3 44.219			K. 12,	+0 36.42	.00	+ 0 20.24	+ .01
		41.7	50.5	59.1	46 50.43	3 45.527	0 36.40	1.308					
	Star K. . . .	58.8	7.7	16.6	48 7.70	3 44.244							
		35.4	44.0	52.8	48 44.07	3 45.525	0 36.37	1.281					
	Star K. . . .	38.2	47.1	56.0	49 47.10	3 44.234							
		14.7	23.7	32.4	50 23.60	3 45.606	0 36.50	+ 1.372		m. s.	s.	′ ″	″
	Star K. . . .	38.0	46.7	55.5	55 46.73	3 44.415			K. 13,	+0 27.49	.00	— 0 27.82	—.01
		5.4	14.3	23.0	56 14.23	3 42.605	0 27.50	— 1.810					
	Star K. . . .	35.0	43.9	52.5	56 43.80	3 44.480							
		2.6	11.3	20.0	57 11.30	3 42.602	0 27.50	1.878					
	Star K. . . .	54.0	2.8	11.7	58 2.83	3 44.410							
		21.4	30.3	39.2	11 58 30.30	3 42.656	0 27.47	— 1.754		m. s.	s.	′ ″	″
	Star K. . . .	0.5	9.3	18.1	12 4 9.30	3 45.707			K. 14,	+0 29.33	.00	+ 2 13.82	+ .04
		29.9	38.7	47.3	4 38.63	4 41.374	0 29.33	+ 8.744					
	Star K. . . .	2.5	11.4	20.3	5 11.40	3 45.740							
		32.0	40.8	49.4	5 40.73	4 41.326	0.29.33	8.663					
	Star K. . . .	3.9	12.6	21.4	6 12.63	3 45.680							
		33.1	42.0	50.8	6 41.97	4 41.370	0 29.34	8.767					
	Star K. . . .	22.3	31.0	40.0	14 31.10	3 44.474							
		53.3	2.3	11.2	15 2.27	5 45.163	0 31.17	30.774		m. s.	s.	′ ″	″
	Star K. . . .	23.8	32.7	41.3	15 32.60	3 44.412			K. 15,	+0 31.10	.00	+ 7 52.73	+ .15
		54.8	3.7	12.3	16 3.60	5 45.221	0.31.00	30.894					
	Star K. . . .	26.3	35.1	44.0	16 35.13	3 44.487							
		57.5	6.3	15.1	17 6.30	5 45.197	0 31.17	30.795					
	Star K. . . .	30.3	39.2	48.0	17 39.17	3 44.531							
		1.4	10.3	19.0	18 10.23	5 45.290	0 31.06	30.844					
	Star K. . . .	32.9	41.7	50.7	18 41.77	3 44.531							
		4.0	12.9	21.7	12 19 12.87	5 45.254	+0 31.10	+ 30.808					
Apr. 23		16.4	25.3	34.0	9 46 25.23	4 41.532	—3 21.90	+ 20.279		a h. m. s.		δ ° ′ ″	
		8.8	17.7	26.4	48 17.63	4 33.619	—1 29.50	+ 12.366					
	Star D. . . .	38.3	47.2	55.9	49 47.13	3 34.330			Star D.	8 31 19.18		+20 8 55.84	
		54.6	3.3	12.2	51 3.37	3 33.487	+1 16.24	— 0.843					
		7.3	16.5	25.2	52 16.33	2 45.237	+2 29.20	— 1.878		Δ a m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
H.		20.4	29.3	38.0	54 29.23	4 41.516	—3 21.94	+ 20.277	D. 1,	—3 21.92	.00	+ 5 10.95	+ .10
		12.7	21.5	30.4	56 21.53	4 33.632	—1 29.64	+ 12.393	D. 2,	—1 29.56	.00	+ 3 9.56	+ .07
	Star D. . . .	42.4	51.2	59.9	57 51.17	3 34.316			D. 3,	+1 16.19	.00	— 0 13.59	.00
		58.5	7.3	16.1	9 59 7.30	3 33.410	+1 16.13	— 0.906	D. 4,	+2 29.25	.00	— 0 28.07	.00
		11.6	20.4	29.2	10 0 20.40	2 45.353	+2 29.23	— 1.748					

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.				
		A.	B.	C.	Mean.		Δ α	Δ mic.					
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.					
Apr. 23		15.0	24.0	32.6	10 2 23.87	4 41.472	−3 21.93	+ 20.265					
		7.4	16.3	25.1	4 16.27	4 33.526	−1 29.53	+ 12.319					
	Star D. . . .	37.0	45.8	54.6	5 45.80	3 34.284							
		53.2	2.0	10.8	7 2.00	3 33.374	+1 16.20	− 0.910					
		6.3	15.1	23.9	8 15.10	2 45.204	+2 29.30	1.865					
H.										α		δ	
		46.9	55.6	4.4	9 55.63	1 41.509	−2 17.60	35.022		h. m. s.		° ′ ″	
	Star A. . . .	4.3	13.2	22.2	12 13.23	4 33.538			Star A.	8 29 49.81		+20 12 7.43	
		30.7	39.4	42.1	13 39.40	3 45.457	+1 26.17	1.158					
		50.2	59.1	8.0	14 59.10	3 33.324	2 45.87			Δ α	Δ ρ	Δ δ	Δ ρ
		10.7	19.7	28.3	16 19.57	2 44.795	+4 6.34			m. s.	s.	′ ″	″
									A. 1,	−2 17.57	.00	− 8 56.95	− .17
		34.2	43.0	52.0	19 43.07	1 41.546	−2 17.60	34.971	A. 2,	+1 26.12	.00	− 0 16.97	.00
	Star A. . . .	51.8	0.6	9.6	22 0.67	4 33.524			A. 3,	+2 45.78	.00	− 3 23.28	− .07
		17.9	26.9	35.7	23 26.83	3 45.514	+1 26.16	1.087	A. 4,	+4 6.34	.00	− 3 43.61	− .07
		37.5	46.3	55.1	24 46.30	3 33.379	2 45.63						
		58.1	6.9	15.8	26 6.93	2 44.820	+4 6.26						
		0.0	8.9	17.5	28 8.80	1 41.436	−2 17.50	35.033					
	Star A. . . .	17.6	26.3	35.0	30 26.30	4 33.476							
		43.5	52.3	1.2	31 52.33	3 45.508	+1 26.03	1.045					
		2.2	11.2	20.0	33 11.13	3 33.305	2 45.83						
		22.8	31.8	40.6	34 31.73	2 44.772	4 6.43						
										m. s.	s.	′ ″	″
	Star D. . . .	7.8	16.7	25.4	39 16.63	3 34.271			D. 1,	+0 3.24	00	5 7.05	.10
		11.1	20.0	28.7	39 19.93	2 27.058	0 3.30	19.998					
	Star D. . . .	43.6	52.3	1.2	39 52.37	3 34.334							
		46.8	55.8	4.3	39 55.63	2 27.037	0 3.26	20.082					
	Star D. . . .	19.8	28.7	37.3	40 28.60	3 34.279							
		23.0	31.8	40.5	40 31.77	2 27.084	0 3.17	19.980					
	Star F. . . .	33.9	47.8	55.6	46 47.77	5 28.408							
		18.8	27.6	36.2	47 27.53	3 33.240	0 39.76	25.253		α		δ	
										h. m. s.		° ′ ″	
	Star F. . . .	57.6	6.6	15.3	49 6.50	4 45.371			Star F.	8 31 55.61		+20 15 7.18	
		37.6	46.3	55.1	49 46.33	3 45.969	0 39.83	25.264					
										Δ α	Δ ρ	Δ δ	Δ ρ
	Star F. . . .	0.5	9.4	18.2	51 9.37	4 45.422				m. s.	s.	′ ″	″
		40.6	49.2	58.0	51 49.27	2 46.005	0 39.90	25.279	F. 1,	+0 39.81	00	− 6 27.61	− .12
	Star F. . . .	46.7	55.6	4.3	52 55.53	4 45.416							
		26.4	35.4	44.1	53 35.30	2 45.996	0 39.77	25.282					
	Star F. . . .	40.6	49.6	58.2	54 49.43	4 45.456							
		20.4	29.2	38.0	55 29.20	2 46.038	0 39.77	− 25.280					
										m. s.	s.	′ ″	″
	Star F. . . .	51.6	0.4	9.1	58 0.37	2 46.080							
		12.5	21.3	50.1	58 21.30	3 45.138	0 20.93	+ 11.843	F. 2.	+0 21.05	.00	+ 3 1.5	+ .06
	Star F. . . .	45.2	54.2	3.0	58 54.13	2 46.129							
		6.5	15.2	24.0	59 15.23	3 45.139	0 21.10	11.795					
	Star F. . . .	37.2	46.0	54.8	10 59 46.00	2 46.029							
		58.3	7.1	16.0	11 0 7.13	3 45.126	0 21.13	11.882					
	Star F. . . .	34.7	43.6	52.3	5 43.53	2 46.004				m. s.	s.		
		36.2	45.0	53.7	5 44.97	2 50.069	0 1.44	4.065	F. 3,	+0 1.48	00	+ 1 1.78	+ .02
	Star F. . . .	5.2	14.0	22.6	6 13.93	2 46.032							
		6.6	15.5	24.2	6 15.43	2 50.083	0 1.50	4.051					
	Star F. . . .	35.1	44.0	52.7	6 43.93	2 46.065							
		36.6	45.5	54.2	6 45.43	2 50.333	0 1.50	+ 3.968					
	Star F. . . .	13.1	22.0	30.8	14 21.97	3 33.424				m s.	s.	′ ″	′
		18.5	27.3	36.2	14 27.33	1 33.862	0 5.36	− 29.478	F. 4,	+0 5.24	00	– 7 33.07	15
	Star F. . . .	55.6	4.5	13.3	15 4.47	3 33.464							
		1.0	9.7	18.6	15 9.77	1 33.876	0 5.30	29.504					
	Star F. . . .	39.1	48.0	55.8	15 47.97	3 33.497							
		44 2	53.2	1.9	11 15 53.10	1 33.887	+0 5.13	− 29.526					

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.	
		A.	B.	C.	Mean.		Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Apr. 23	Star F. . . .	22.1	31.0	39.9	11 16 31.00	3 33.475		
		27.3	36.1	44.8	16 36.07	1 33.770	+0 5.07	— 29.621
H.	Star F. . . .	5.3	14.5	23.0	23 14.27	3 33.438		
		40.9	19.5	28.4	11 23 19.60	1 33.781	+0 5.33	— 29.573
Apr. 26		25.6	34.6	43.3	10 20 34.50	3 39.232	—3 16.47	— 5.170
		34.9	43.6	52.3	21 43.60	2 33.283	2 7.37	— 23.904
		5.7	14.5	23.1	23 14.43	4 42.296	0 36.54	+ 10.971
	Star L. . . .	42.1	51.0	59.8	23 50.97	3 44.402		
H.		51.6	0.4	9.1	26 0.37	3 39.253	3 16.50	— 5.153
		0.4	9.3	18.2	27 9.30	2 33.366	2 7.57	— 23.827
		31.5	40.4	49.2	28 40.37	4 42.274	0 36.50	+ 10.943
	Star L. . . .	8.0	17.0	25.6	29 16.87	3 44.408		
		8.6	17.3	26.0	31 17.30	3 39.207	3 16.53	— 5.193
		17.6	26.3	35.0	32 26.30	2 33.336	2 7.53	— 23.849
		48.4	57.3	6.1	33 57.27	4 42.284	0 36.56	+ 10.961
	Star L. . . .	25.0	33.9	42.6	34 33.83	3 44.400		
		48.4	57.3	6.2	35 57.30	2 47.124	1 26.87	— 10.102
		38.8	47.8	56.3	36 47.63	4 42.289	0 36.54	+ 10.925
	Star L. . . .	15.3	24.3	32.9	37 24.17	3 44.441		
		34.9	43.8	52.6	38 43.77	2 47.088	1 26.76	— 10.137
		25.1	34.1	42.8	39 34.00	4 42.264	0 36.53	+ 10.901
	Star L. . . .	1.6	10.7	19.3	40 10.53	3 44.440		
		14.5	23.4	32.2	41 23.37	2 47.164	1 26.76	— 10.059
		. .	13.7	22.4	42 13.63	4 42.324	0 36.50	+ 10.963
	Star L. . . .	41.3	50.2	58.9	42 50.13	3 44.438		
		12.5	21.4	30.1	46 21.33	2 46.365	0 39.44	— 10.906
	Star L. . . .	52.0	0.8	9.5	47 0.77	3 44.486		
		7.2	16.1	25.0	48 16.10	2 46.314	0 39.30	10.861
	Star L. . . .	46.7	55.4	4.1	48 55.40	3 44.390		
		1.9	10.7	19.4	50 10.67	2 46.361	0 39.33	— 10.853
	Star L. . . .	41.2	50.0	58.8	50 50.00	3 44.429		
		1.5	10.4	19.2	52 10.37	4 45.174	0 53.40	+ 13.838
	Star L. . . .	55.0	3.7	12.6	53 3.77	3 44.413		
		2.9	11.9	20.6	54 11.80	4 45.192	0 53.40	13.839
	Star L. . . .	56.3	5.3	14.0	55 5.20	3 44.430		
		5.1	14.0	23.0	56 14.07	4 45.166	0 53.46	13.793
	Star L. . . .	58.7	7.6	16.3	57 7.53	3 44.450		
		13.8	22.7	31.3	10 59 22.60	5 36.215	1 39.20	21.845
	Star L. . . .	53.0	1.9	10.3	11 1 1.80	3 44.455		
		19.0	28.0	36.7	2 27.90	5 36.304	1 39.23	21.881
	Star L. . . .	58.3	7.1	16.0	4 7.13	3 44.508		
		5.1	14.0	22.9	5 14.00	5 36.310	1 39.13	+ 21.855
	Star L. . . .	44.3	53.1	2.0	6 53.13	3 44.540		
		28.6	37.4	46.2	11 37.40	3 36.521	2 33.13	— 0.263
		32.8	41.7	50.5	12 41.67	2 44.384	—1 28.86	— 5.185
	Star G. . . .	1.8	10.5	19.3	14 10.53	3 36.784		
		15.8	24.5	33.4	16 24.57	3 45.000	+2 14.04	+ 8.216
		22.6	31.5	40.3	18 31.47	3 36.650	—2 33.23	— 0.064
		27.1	36.0	44.8	19 35.97	2 44.354	—1 28.73	— 5.145
	Star G. . . .	55.9	4.8	13.4	21 4.70	3 36.714		
		9.9	18.8	27.3	11 23 18.67	3 44.906	+2 13.97	+ 8.192

RESULTS.

	α	δ
	h. m. s.	° ′ ″
Star L.	8 34 3.05	+20 21 12.77

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
L. 1,	—3 16.50	.00	— 1 19.32	— .02
L. 3,	—2 7.49	.00	— 6 5.95	— .12
L. 4,	—0 36.53	.00	+ 2 48.07	+ .05
	m. s.	s.	′ ″	″
L. 5,	—1 26.80	.00	— 2 34.89	— .05
L. 6,	—0 36.52	.00	+ 2 47.64	+ .06
	m. s.	s.	′ ″	″
L. 7,	—0 39.36	.00	— 2 46.76	— .05
	m. s.	s.	′ ″	″
L. 8,	—0 53.42	.00	+ 3 32.00	+ .06
	m. s.	s.	′ ″	″
L. 9,	—1 39.19	.00	+ 5 35.28	+ .11

	α	δ
	h. m. s.	° ′ ″
Star G.	8 32 18.69	+20 28 57.06

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	
G. 1,	—2 33.23	.00	— 0 2.19	.00
G. 2,	—1 28.80	.00	— 1 19.22	— .02
G. 3,	—1 3.03	.00	— 0 38.17	— .01
G. 4,	+2 13.99	.00	+ 2 5.57	+ .04

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.				
		A.	B.	C.	Mean.		Δ α	Δ mic.					
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.					
April 26		15.7	24.6	33.5	11 25 24.60	3 36.704	—2 33.33	— 0.103					
		46.0	55.0	3.7	26 54.90	2 47.104	—1 3.03	— 2.488					
H.	Star G. . . .	49.0	57.9	6.9	27 57.93	3 36.807							
		3.1	11.9	20.7	30 11.90	3 44.959	+2 13.97	+ 8.152		Δ α	Δ ρ	Δ δ	Δ ρ
										m. s.	s.	′ ″	″
		27.0	35.8	44.5	31 35.77	2 47.075	—1 2.96	— 2.487	G. 5,	—1 2.96	.00	— 0 38.44	— .01
	Star G. . . .	30.0	38.7	47.5	32 38.73	3 36.777							
		57.0	5.8	14.6	34 5.80	2 47.130	1 2.97	— 2.526					
	Star G. . . .	59.9	8.8	17.6	35 8.77	3 36.871							
										m. s.	s.	′ ″	″
		11.9	20.8	29.4	37 20.70	3 47.020	0 47.40	+ 10.173	G. 6,	—0 47.50	.00	+ 2 37.42	+ .05
	Star G. . . .	59.3	8.0	17.0	38 8.10	3 36.847							
		28.4	37.3	46.2	39 37.30	3 47.226	0 47.47	10.300					
	Star G. . . .	15.9	24.8	33.6	40 24.77	3 36.926							
		37.3	46.4	55.1	41 46.27	3 47.199	0 47.63	10.320					
	Star G. . . .	25.0	33.9	42.8	11 42 33.90	3 36.879							
											α h. m. s.	δ ° ′ ″	
April 28		0.6	9.4	18.2	10 26 9.40	3 44.889	0 47.43	10.248	Star G.		8 32 18.66	+20 28 57.45	
	Star G. . . .	48.0	56.8	5.7	26 56.83	3 34.641							
H.										Δ α	Δ ρ	Δ δ	Δ ρ
		13.3	22.1	30.9	29 22.10	3 44.970	0 47.37	10.267		m. s.	s.	′ ″	″
	Star G. . . .	0.5	9.6	18.3	30 9.47	3 34.703			G. 1,	—0 47.44	.00	+ 2 37.33	+ .05
		26.3	35.2	43.8	31 35.10	3 44.937	0 47.53	10.259					
	Star G. . . .	13.7	22.8	31.4	32 22.63	3 34.678							
										m. s.	s.	′ ″	″
		45.8	54.6	3.3	34 54.57	4 35.780	0 36.16	14.161	G. 2,	—0 36.25	.00	+ 3 37.53	+ .07
	Star G. . . .	21.9	30.7	39.6	35 30.73	3 34.696							
		49.0	57.6	6.3	37 57.63	4 35.740	0 36.27	14.122					
	Star G. . . .	25.4	33.7	42.6	38 33.90	3 34.695							
		2.6	11.4	20.2	40 11.40	4 35.841	0 36.33	14.266					
	Star G. . . .	39.0	47.7	56.5	40 47.73	3 34.652							
										m. s.	s.	′ ″	″
		37.0	45.7	54.6	43 45.77	4 35.063	0 11.53	13.294	G. 3,	—0 11.50	.00	+ 3 26.26	+ .07
	Star G. . . .	48.5	57.3	6.1	43 57.30	3 34.846							
		26.3	35.1	44.0	44 35.13	4 35.150	0 11.37	13.542					
	Star G. . . .	37.7	46.6	55.2	44 46.50	3 34.685							
		10.4	19.3	28.2	45 19.30	4 35.145	0 11.60	13.508					
	Star G. . . .	22.0	30.9	39.8	45 30.90	3 34.714							
										m. s.	s.	′ ″	″
		33.1	42.0	50.7	51 41.93	4 37.843	0 7.37	5.699	G. 4,	—0 7.41	.00	+ 1 27.25	+ .02
	Star G. . . .	40.4	19.3	58.2	51 49.30	4 32.144							
		9.9	18.8	27.5	52 18.73	4 37.986	0 7.40	5.658					
	Star G. . . .	17.3	26.1	35.0	52 26.13	4 32.328							
		49.2	58.0	6.9	52 58.03	4 37.890	—0 7.47	+ 5.709					
	Star G. . . .	56.7	5.6	14.2	10 53 5.50	4 32.181							
										m. s.	s.	′ ″	″
	Star G. . . .	45.1	54.0	2.9	11 0 54.00	4 32.296			G. 5,	+0 5.12	.00	— 2 12.39	— .04
		50.1	59.1	8.0	0 59.07	3 36.750	+0 5.07	— 8.623					
	Star G. . . .	22.5	31.4	40.0	1 31.30	4 32.389							
		27.5	36.4	45.3	1 36.40	3 36.859	0 5.10	8.607					
	Star G. . . .	57.2	6.1	14.8	2 6.03	4 32.436							
		2.5	11.2	20.0	2 11.23	3 36.847	0 5.20	8.666					
	Star G. . . .	34.2	47.1	0.0	8 47.10	3 45.571				m. s.	s.	′ ″	″
		43.2	56.3	9.0	8 56.17	3 42.376	0 9.07	3.195	G. 6	+0 9.12	.00	— 0 48.76	— .01
	Star G. . . .	25.6	38.5	51.5	9 38.47	3 45.560							
		34.6	47.7	0.4	9 47.57	3 42.386	0 9.10	3.174					
	Star G. . . .	41.4	54.3	7.5	10 54.40	3 45·538							
		50.6	3.6	16.6	11 11 3.60	3 42.360	+0 9.20	— 3.169					

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.				
		A.	B.	C.	Mean.		Δ α	Δ mic.					
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.		Δ α	Δ ρ	Δ δ	Δ ρ
April 28	Star G. . . .	41.1	50.0	58.7	11 17 49.93	3 45.474				m. s	s.	′ ″	″
H.		32.0	40.9	49.4	18 40.77	2 41.628	+0 50.84	− 16.631	G. 7,	+0 50.95	.00	− 4 15.91	− .08
	Star G. . . .	56.5	5.2	14.1	20 5.27	3 45.550							
		47.3	56.3	5.0	20 56.20	2 41.565	0 50.93	16.770					
	Star G. . . .	9.5	18.4	27.1	22 18.33	3 45.543							
		0.6	9.3	18.3	23 9.40	2 41.674	0 51.07	16.654		α h. m. s.		δ ° ′ ″	
	Star N. . . .	10.4	19.1	28.0	27 19.17	3 42.664			Star N.	8 30 33.77		+20 40 32.32	
		46.6	55.6	4.0	28 55.40	2 46.996	1 36.23	8.453					
		. .	23.7	32.5	29 23.67	3 38.026	2 4.50	4.638		Δ α	Δ ρ	Δ δ	Δ ρ
		41.7	50.4	59.3	30 50.47	3 33.603	3 31.30	9.061		m. s.	s.	′ ″	″
									N. 1,	+1 10.97	.00	− 2 7.33	− .04
	Star N. . . .	22.3	31.1	40.0	32 31.13	3 42.686			N. 2,	+1 36.23	.00	− 2 9.64	− .04
		33.4	42.0	. .	33 42.07	2 47.236	1 10.94	8.235	N. 3,	+2 4.51	.00	− 1 10.87	− .02
		. .	35.8	44.5	34. 35.77	3 38.108	2 4.64	4.578	N. 4,	+3 31.28	.00	− 2 20.01	− .05
		53.3	2.5	11.3	36 2.37	3 33.583	3 31.24	9.103					
	Star N. . . .	44.4	53.2	2.1	37 53.23	3 42.757							
		55.4	4.3	13.0	39 4.23	2 47.172	1 11.00	8.370					
		48.9	57.8	6.3	39 57.67	2 50.896	2 4.44	4.646					
		15.6	24.7	33.3	41 24.53	3 33.534	+3 31.30	9.223		m. s.	s.	′ ″	″
		3.9	16.8	29.8	45 16.83	2 37.261	−0 17.84	18.368	N. 5,	−0 17.94	.00	− 4 42.56	− .09
	Star N. . . .	21.7	34.8	47.5	45 34.67	3 42.844							
		25.2	38.1	51.0	46 38.10	2 37.211	0 18.00	18.494					
	Star N. . . .	43.2	56.1	9.0	46 56.10	3 42.920							
		24.2	37.2	50.0	47 37.13	2 37.195	−0 17.97	− 18.407					
	Star N. . . .	42.2	55.1	8.0	11 47 55.10	3 42.817							
										α h. m. s.		δ ° ′ ″	
May 5	Star C. . . .	5.0	13.8	22.4	11 25 13.73	1 45.926			Star C.	8 30 0.70		+19 44 9.47	
		3.1	12.0	20.7	27 11.93	2 31.895	+1 58.20	+ 3.100					
		38.6	47.4	56.0	27 47.33	3 36.836	2 33.60	20.826		Δ α	Δ ρ	Δ δ	Δ ρ
H.		4.5	13.1	52.0	29 13.20	2 31.228	3 59.47	2.433		m. s.	s.	′ ″	′
									C. 1,	+1 58.22	.00	+ 0 46.06	+ .02
	Star C. . . .	41.4	50.2	59.0	30 50.20	1 46.050			C. 2,	+2 33.64	.00	+ 5 18.17	+ .10
		39.6	48.5	57.2	. 32 48.43	2 31.876	1 58.23	2.957	C. 3,	+3 59.51	.00	+ 0 36.55	+ .01
		15.0	23.9	32.6	33 23.83	3 36.847	2 33.63	20.713					
		40.9	49.8	58.5	34 49.73	2 31.324	3 59.53	2.405					
	Star C. . . .	7.3	16.2	25.0	37 16.17	1 46.181							
		5.6	14.4	23.2	39 14.40	2 32.003	1 58.23	2.953					
		41.2	49.9	58.5	39 49.87	3 36.960	2 33.70	20.695					
		6.9	15.7	24.5	41 15.70	2 31.360	+3 59.53	2.310		m. s.	s.	′ ″	″
		5.1	14.0	22.9	43 14.00	2 36.783	−0 12.33	4.695	C. 4,	−0 12.28	.00	+ 1 11.32	+ .02
	Star C. . . .	17.6	26.4	35.0	43 26.33	2 32.088							
		51.9	0.8	9.5	44 0.73	2 36.783	0 12.24	4.666					
	Star C. . . .	4.1	13.0	21.8	44 12.97	2 32.117							
		36.0	44.9	55.5	44 44.80	2 36.724	−0 12 27	4.590					
	Star C. . . .	48.2	57.1	5.9	44 57.07	2 32.134				m. s.	s.	′ ″	′
	Star C. . . .	30.0	39.0	47.9	52 38.97	2 32.128			C. 5,	+0 7.60	.00	+ 2 17.18	+ .04
		37.7	46.6	55.3	52 46.53	3 28.218	+0 7.56	8.875					
	Star C. . . .	11.0	20.0	28.7	53 19.90	2 32.139							
		18.6	27.7	36.3	53 27.53	3 28.330	0 7.63	8.976					
	Star C. . . .	50.9	59.9	8.4	53 59.73	2 32.097							
		58.7	7.2	16.1	54 7.33	3 28.292	0 7.60	8.980					
	Star C. . . .	8.8	17.5	26.2	11 59 17.50	2 32.219				m. s.	s.	′ ″	″
		10.3	19.0	27.9	12 0 19.07	3 28.099	1 1.57	8.665	C. 6,	+1 1.56	.00	+ 2 13.42	+ .04
	Star C. . . .	24.3	33.1	41.7	1 33.07	2 32.160							
		25.8	34.6	43.2	2 34.53	3 28.106	1 1.46	8.731					
	Star C. . . .	39.1	48.0	56.7	3 47.93	2 32.253							
		40.8	49.6	58.3	12 4 49.57	3 28.168	+1 1.64	+ 8.700					

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.	
		A.	B.	C.	Mean.		Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. t.	revs.
Oct. 29	Star C. . . .	50. 6	3. 6	16. 8	4 39 3. 67	5 34. 948		
H.		8. 9	22. 0	35. 0	39 21. 97	3 40. 152	—0 18. 30	— 24. 881
	Star C. . . .	48. 3	1. 1	14. 3	40 1. 23	5 34. 997		
		6. 5	19. 4	32. 3	40 19. 40	3 40. 149	0 18. 17	24. 933
	Star C. . . .	44. 2	57. 1	10. 3	40 57. 20	5 35. 086		
		2. 7	15. 6	28. 6	41 15. 63	3 40. 180	0 18. 43	24. 991
	Star C. . . .	22. 0	30. 6	39. 4	47 30. 67	5 41. 698		
		26. 1	34. 8	43. 7	47 34. 87	3 40. 360	0 4. 20	31. 423
	Star C. . . .	55. 9	4. 7	13. 6	48 4. 73	5 41. 830		
		0. 0	8. 8	17. 5	48 8. 77	3 40. 378	0 4. 04	31. 537
	Star C. . . .	33. 4	42. 2	51. 0	48 42. 20	5 41. 816		
		37. 5	46. 4	55. 2	48 46. 37	3 40. 389	0 4. 17	31. 512
	Star C. . . .	5. 8	14. 3	23. 4	49 14. 50	5 41. 870		
		9. 9	18. 8	27. 5	4 49 18. 73	3 40. 400	—0 4. 23	31. 555
	Star C. . . .	2. 9	11. 6	20. 5	5 2 11. 67	3 40. 814		
		11. 2	20. 0	28. 7	3 19. 97	4 43. 326	+1 8. 30	15. 589
		14. 8	23. 5	32. 3	4 23. 53	4 41. 885	2 11. 86	14. 148
	Star C. . . .	34. 5	43. 4	52. 1	5 43. 33	3 40. 826		
		43. 0	52. 0	0. 4	6 51. 80	4 43. 312	1 8. 47	15. 563
		46. 6	55. 2	4. 1	7 55. 30	4 41. 971	2 11. 97	14. 222
	Star C. . . .	11. 0	19. 8	28. 7	9 19. 83	3 40. 956		
		19. 4	28. 3	37. 0	10 28. 23	4 43. 495	1 8. 40	15. 616
		23. 0	31. 8	40. 5	11 31. 77	4 42. 040	2 11. 94	— 14. 161
	Star C. . . .	49. 3	58. 3	7. 0	18 58. 20	3 41. 222		
		47. 9	56. 4	5. 3	20 56. 53	3 38. 070	1 58. 33	+ 3. 152
		36. 5	45. 1	54. 0	21 45. 20	4 43. 527	2 47. 00	— 15. 382
	Star C. . . .	59. 3	8. 1	17. 0	23 8. 13	3 41. 272		
		57. 6	6. 4	15. 1	25 6. 37	3 38. 201	1 58. 24	+ 3. 071
		46. 3	55. 0	3. 9	25 55. 07	4 43. 678	2 46. 94	— 15. 483
	Star C. . . .	59. 0	7. 5	16. 3	27 7. 60	3 41. 365		
		57. 1	5. 8	14. 7	29 5. 87	3 38. 310	1 58. 27	+ 3. 055
		45. 9	54. 4	3. 3	29 54. 53	4 43. 841	2 46. 93	— 15. 553
	Star C. . . .	9. 8	18. 7	27. 5	40 18. 67	5 39. 183		
		22. 0	31. 0	39. 7	41 30. 90	3 31. 506	1 12. 23	+ 37. 762
	Star C. . . .	12. 7	21. 7	30. 4	43 21. 60	5 40. 243		
		25. 0	33. 9	42. 6	44 33. 83	3 . .	1 12. 23	
	Star C. . . .	17. 0	25. 8	34. 6	51 25. 80	5 40. 291		
		29. 3	38. 1	47. 0	52 38. 13	2 45. 550	1 12. 33	37. 611
	Star C. . . .	15. 5	24. 4	33. 3	54 24. 40	5 40. 425		
		28. 0	36. 9	45. 7	55 36. 87	2 45. 670	1 12. 47	37. 625
	Star C. . . .	3. 4	12. 2	21. 1	57 12. 23	5 40. 566		
		15. 9	24. 6	33. 2	58 24. 57	2 45. 675	1 12. 34	37. 761
	Star C. . . .	19. 8	28. 4	37. 2	46 28. 47	5 40. 335		
		57. 9	6. 3	15. 6	48 6. 60	2 37. 046	1 38. 13	46. 159
	Star C. . . .	45. 8	54. 6	3. 3	5 59 54. 57	5 40. 485		
		24. 2	33. 0	41. 5	6 1 32. 90	2 37. 138	1 38. 33	46. 217
	Star C. . . .	4. 1	13. 0	21. 8	3 12. 97	5 40. 644		
		42. 3	51. 2	59. 9	4 51. 13	2 37. 264	1 38. 16	46. 250
	Star C. . . .	34. 4	43. 4	52. 3	6 43. 37	5 40. 685		
		12. 9	21. 5	30. 4	8 21. 60	2 37. 476	1 38. 23	46. 079
	Star C. . . .	38. 9	47. 7	56. 4	13 47. 67	5 41. 067		
		12. 6	21. 2	30. 0	6 16 21. 27	4 37. 294	+2 33. 60	+ 20. 781

RESULTS.

	α	δ
	h. m. s.	° ′ ″
Star C.	8 30 2. 52	+19 44 1. 68

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
C. 1,	—0 18. 30	. 00	— 6 22. 44	— . 16
C. 2,	—0 4. 16	. 00	— 8 3. 23	— . 20
C. 3,	+1 8. 39	. 00	— 3 59. 09	— . 10
C. 4,	+2 11. 92	. 00	— 3 37. 44	— . 09
C. 5,	+1 58. 28	. 00	+ 0 47. 44	+ . 02
C. 6,	+2 46. 96	. 00	— 3 57. 31	— . 09
C. 7,	+1 12. 32	. 00	+ 9 38. 07	+ . 19
C. 8,	+1 38. 21	. 00	+11 48. 20	+ . 23
C. 9,	+2 33. 56	. 00	+ 5 18. 53	+ . 10
C. 10,	+3 32. 20	. 00	+ 0 11. 53	. 00
C. 11,	+2 59. 85	. 00	+ 3 0. 22	+ . 06
C. 12,	+3 59. 52	. 00	+ 0 36. 67	+ . 01

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Oct. 29	Star C. . . .	20.8	29.5	38.3	6 19 29.53	5 41.138		
		54.2	2.9	11.8	22 2.97	4 37.386	+2 33.44	+ 20.760
		52.8	1.7	10.4	23 1.63	5 40.303	3 32.10	0.835
H.	Star C. . . .	27.7	36.4	45.2	24 36.43	5 41.253		
		1.3	10.0	18.9	27 10.07	4 37.497	2 33.64	20.764
		0.0	8.7	17.5	28 8.73	5 40.584	3 32.30	0.639
	Star C. . . .	20.7	29.3	38.3	37 29.43	5 41.682		
		20.5	29.2	38.1	40 29.27	4 46.985	2 59.84	11.705
		20.1	29.0	37.8	41 28.97	5 39.289	3 59.54	2.393
	Star C. . . .	41.9	50.5	59.6	42 50.67	5 41.820		
		41.8	50.6	59.3	45 50.57	4 47.062	2 59.90	11.766
		41.3	50.3	58.9	46 50.17	5 39.450	3 59.50	2.370
	Star C. . . .	6.4	15.3	24.1	48 15.27	5 41.913		
		6.3	15.1	23.8	51 15.07	4 47.142	2 59.80	11.779
		6.0	14.7	23.7	6 52 14.80	5 39.504	+3 59.53	+ 2.409
Nov. 1	Star C. . . .	2.2	15.7	28.5	4 5 15.47	5 35.174		
H.		21.0	33.9	46.7	5 33.87	3 40.320	—0 18.40	— 24.939
	Star C. . . .	57.3	10.1	23.1	7 10.17	5 35.284		
		15.5	28.3	41.4	7 28.40	3 40.372	0 18.23	24.997
	Star C. . .	59.9	12.9	25.7	8 12.83	5 35.420		
		18.2	31.0	44.1	8 31.10	3 40.476	0 18.27	25.029
	Star C. . . .	3.3	11.6	20.6	14 11.83	5 42.267		
		7.1	16.0	24.6	14 15.90	3 40.727	0 4.07	31.625
	Star C. . . .	43.7	52.3	0.9	14 52.30	5 42.237		
		47.6	56.2	5.1	14 56.30	3 40.708	0 4.00	31.614
	Star C. . . .	25.2	33.9	42.7	15 33.93	5 42.320		
		29.2	38.0	46.8	15 38.00	3 40.718	0 4.07	— 31.687
	Star I. . . .	12.2	21.0	29.8	32 21.00	2 41.095		
		33.7	42.4	51.3	33 42.47	3 45.194	1 21.47	+ 16.884
	Star I. . . .	33.9	42.3	51.1	34 42.43	2 41.183		
		55.2	3.9	12.6	36 3.90	3 45.284	1 21.47	16.886
	Star I. . . .	55.2	4.1	12.7	37 4.00	2 41.368		
		16.7	25.4	34.2	38 25.43	3 45.343	1 21.43	+ 16.760
	Star I. . . .	5.5	14.1	22.9	40 14.17	4 41.530		
		33.0	41.7	50.6	40 41.77	3 45.620	0 27.60	— 8.987
	Star I. . . .	3.7	12.5	21.2	41 12.47	4 41.606		
		31.6	40.2	49.0	41 40.27	3 45.699	0 27.80	8.984
	Star I. . . .	3.2	12.1	20.7	42 12.00	4 41.620		
		30.9	39.6	48.6	42 39.70	3 45.724	0 27.70	8.973
	Star I. . . .	23.2	31.8	40.6	51 31.87	4 46.065		
		10.9	19.4	28.2	52 19.50	3 45.903	0 47.63	13.239
	Star I. . . .	41.0	49.6	58.6	53 49.73	4 46.122		
		28.6	37.3	46.2	54 37.37	3 45.942	0 47.64	13.257
	Star I. . . .	39.9	48.8	57.6	55 48.77	4 46.089		
		27.7	36.2	45.0	56 36.30	3 46.000	0 47.53	— 13.166
	Star I. . . .	46.0	54.5	3.4	58 54.63	3 42.616		
		20.2	29.1	37.7	4 59 29.00	3 46.580	0 34.37	+ 3.964
	Star I. . . .	54.0	2.9	11.4	5 0 2.77	3 42.729		
		28.4	37.1	46.0	0 37.17	3 46.581	0 34.40	3.852
	Star I. . . .	0.6	9.2	18.0	1 9.27	3 42.930		
		34.9	43.9	52.4	5 1 43.73	3 46.703	—0 34.46	+ 3.773

RESULTS.

	α h. m. s.	δ ° ′ ″
Star C.	8 30 2.61	+19 44 1.37

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
C. 1,	—0 18.30	.00	— 6 23.25	— .17
C. 2,	—0 4.05	.00	— 8 5.31	— .21

	α h. m. s.	δ ° ′ ″
Star I.	8 32 36.16	+19 49 20.97

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
I. 1,	—1 21.46	.00	+ 4 18.33	+ .09
I. 2,	—0 27.70	.00	— 2 17.74	— .05
I. 3,	—0 47.60	.00	— 3 22.77	— .07
I. 4,	—0 34.41	.00	+ 0 59.25	+ .02
I. 5,	—0 37.59	.00	— 2 19.87	— .04
I. 6,	—0 13.78	.00	— 2 33.47	— .05

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ a	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Nov. 1	Star I. . . .	7.9	16.6	25.3	5 10 16.60	4 42.992			
H.		35.4	44.3	53.0	10 44.23	3 46.906	—0 37.63	— 9.163	
	Star I. . . .	7.7	16.1	25.3	11 16.37	4 43.193			
		35.3	44.2	53.0	11 44.17	3 47.198	0 37.80	9.072	
	Star I. . . .	7.2	15.6	25.0	12 15.93	4 43.158			
		34.6	43.0	52.2	12 43.27	3 47.109	0 37.34	9.126	
	Star I. . . .	44.1	53.0	1.7	19 52.93	4 44.410			
		58.0	6.6	15.6	20 6.73	3 47.419	0 13.80	10.068	
	Star I. . . .	31.3	40.4	49.0	20 40.23	4 44.546			
		45.2	54.0	2.9	20 54.03	3 47.634	0 13.80	9.989	
	Star I. . . .	47.4	55.8	4.7	21 55.97	4 44.420			
		0.8	9.6	18.7	5 22 9.70	3 47.536	—0 13.73	— 9.961	
Nov. 5	Star I. . . .	4.1	12.8	21.7	3 51 12.87	4 43.980			α h. m. s. δ ° ′ ″ Star I. . . . . 8 32 36.28 +19 49 20.23 Δ α m. s. Δ ρ s. Δ δ ′ ″ Δ ρ ″ I. 1, —0 35.35 .00 — 4 32.09 — .11 I. 2, +0 26.17 .00 — 2 19.06 — .05 I. 3, +0 58.76 .00 — 5 7.47 — .12 I. 4, +1 46.49 .00 + 4 1.02 + .10 I. 5, —2 40.21 .00 + 9 47.10 + .19
H.		39.6	48.3	57.1	51 48.33	3 39.288	—0 35.46	— 17.769	
	Star I. . . .	10.0	18.7	27.4	52 18.70	4 44.024			
		45.3	54.1	2.9	52 54.10	3 39.317	0 35.40	17.784	
	Star I. . . .	15.0	23.6	32.5	53 23.70	4 44.046			
		50.1	58.9	7.7	53 58.90	3 39.454	—0 35.20	17.669	
	Star I. . . .	49.1	57.9	6.7	3 59 57.90	3 39.674			
		15.2	24.2	32.9	4 0 24.10	4 35.624	+0 26.20	9.027	
	Star I. . . .	50.3	59.0	7.8	0 59.03	3 39.632			
		16.3	25.2	33.9	1 25.13	4 35.635	0 26.10	9.080	
	Star I. . . .	49.6	58.4	7.2	1 58.40	3 39.701			
		15.8	24.6	33.4	2 24.60	4 35.717	0 26.20	9.093	
	Star I. . . .	33.2	41.9	50.8	9 41.97	3 34.132			
		32.0	40.8	49.6	10 40.80	4 41.033	0 58.83	19.978	
	Star I. . . .	49.9	58.6	7.3	11 58.60	3 34.050			
		48.3	57.2	6.2	12 57.23	4 41.127	0 58.63	20.154	
	Star I. . . .	13.0	21.9	30.8	14 21.90	3 34.295			
		11.9	20.7	29.6	15 20.73	4 41.228	0 58.83	— 20.010	
	Star I. . . .	10.8	19.4	28.3	18 19.50	3 34.345			
		57.3	6.0	14.9	20 6.07	2 31.456	1 46.57	+ 15.674	
	Star I. . . .	10.9	19.7	28.5	21 19.70	3 34.428			
		57.4	6.0	14.8	23 6.07	2 31.475	1 46.37	15.738	
	Star I. . . .	59.2	8.0	16.8	24 8.00	3 34.550			
		45.9	54.5	3.2	25 54.53	2 31.602	+1 46.53	15.733	
	Star I. . . .	41.9	50.7	59.3	33 50.63	2 33.276			
		22.0	30.9	39.8	36 30.90	4 45.751	—2 40.27	38.337	
	Star I. . . .	51.5	0.2	9.0	38 0.23	2 33.456			
		31.8	40.4	49.2	40 40.47	4 45.880	2 40.24	38.286	
	Star I. . . .	57.9	6.5	15.6	42 6.67	2 33.650			
		38.1	46.7	55.6	44 46.80	4 46.002	2 40.13	+ 38.214	
		40.0	48.9	57.7	51 48.87	4 40.391	—1 46.66	— 11.881	
	Star B. . .	26.8	35.5	44.3	53 35.53	3 41.587			
		33.1	42.0	50.8	54 41.97	3 45.044	+1 6.44	— 3.457	
		36.8	45.5	54.2	55 45.50	3 35.052	2 9.97	+ 6.535	
		42.4	51.3	0.1	56 51.27	2 37.893	+3 15.74	+ 16.479	
		50.6	59.3	8.0	4 59 59.30	4 40.643	—1 46.83	— 11.970	
	Star B. . . .	37.3	46.1	55.0	5 1 46.13	3 41.750			
		43.7	52.5	1.4	2 52.53	3 45.227	+1 6.40	— 3.477	
		47.4	56.3	5.1	3 56.27	3 35.345	2 10.14	+ 6.405	
		53.2	1.9	11.0	5 2.03	2 38.164	3 15.90	16.371	
		41.7	50.6	59.3	5 6 50.53	2 37.140	+5 4.40	+ 17.395	(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
1864. Nov. 5		20.9	29.7	38.5	5 8 29.70	4 40.910	−1 46.73	− 11.933
	Star B. . . .	7.6	16.5	25.2	10 16.43	3 42.054		
		14.1	23.0	31.8	11 22.97	3 45.543	+1 6.54	− 3.489
H.		18.0	26.7	35.4	12 26.70	3 35.542	2 10.27	+ 6.512
		23.5	32.3	41.2	13 32.33	2 38.440	3 15.90	16.399
		12.1	21.1	29.8	15 21.00	2 37.460	+5 4.57	17.379
		47.2	56.1	4.9	23 56.07	2 40.434	−2 21.76	15.361
	Star B. . .	9.0	17.8	26.7	26 17.83	3 43.010		
		37.7	46.2	55.1	27 46.33	2 37.474	+1 28.50	18.321
		46.9	55.5	4.3	28 55.57	3 38.369	2 37.74	4.641
		56.0	5.0	13.7	30 4.90	3 35.137	3 47.07	7.873
		10.0	18.8	27.4	31 18.73	3 34.255	+5 0.90	8.755
		33.1	41.8	50.7	32 41.87	2 40.736	−2 21.86	15.407
	Star B. . . .	55.0	3.8	12.4	35 3.73	3 43.358		
		23.4	32.2	41.2	36 32.27	2 37.896	+1 28.54	18.247
		32 8	41.4	50.2	37 41.47	3 38.566	2 37.74	4.792
		42.0	50.5	59.3	38 50.60	3 35.480	3 46.87	7.878
		55.7	4.7	13.4	40 4.60	3 34.580	+5 0.87	8.778
		5.2	14.0	22.8	42 14.00	2 41.026	−2 21.83	15.400
	Star B. . . .	27.3	35.8	44.4	44 35.83	3 43.641		
		55.6	4.3	13.2	46 4.37	2 38.112	+1 28.54	18.314
		4.9	13.6	22.5	47 13.67	3 38.723	2 37.84	4.918
		14.1	22.9	31.7	48 22.90	3 35.624	3 47.07	8.017
		27.9	36.7	45.6	49 36.73	3 34.894	+5 0.90	8.747
		1.8	10.2	19.2	52 10.40	2 36.901	−0 38.97	19.844
	Star B. . . .	40.6	49.4	58.1	52 49.37	2 43.960		
		58.0	6.9	15.5	55 6.80	3 37.166	+2 17.43	6.794
		56.6	5.4	14.1	56 5.37	2 40.233	+3 16.00	16.512
		13.9	22.8	31.8	57 22.83	2 37.038	−0 38.87	19.972
	Star B. . . .	53.0	1.7	10.4	5 58 1.70	3 44.225		
		10.2	19.0	27.9	6 0 19.03	3 37.376	+2 17.33	6.849
		9.0	17.6	26.6	1 17.73	2 40.415	+3 16.03	16.595
		50.8	59.8	8.4	3 59.67	2 37.140	−0 38.90	19.917
	Star B. . . .	29.8	38.6	47.3	4 38.57	3 44.272		
		47.1	56.0	4.8	6 55.97	3 37.463	+2 17.40	6.809
		45.8	54.7	3.3	1 17.73	2 40.594	+3 16.03	16.463
		52.1	1.0	9.7	10 0.93	2 47.305	−0 12.74	10.238
	Star B. . . .	5.0	13.5	22.5	10 13.67	3 44.758		
		41.0	50.0	59.0	10 50.00	2 47.258	0 12.90	10.351
	Star B. . .	54.2	2.7	11.8	11 12.90	3 44.824		
		19.2	27.9	37.0	11 28.03	2 47.403	−0 12.77	+ 10.238
	Star B. . . .	32.1	40.7	49.6	6 11 40.80	3 44.856		
Nov. 12	Star B. . . .	44.2	52.7	1.5	4 17 52.80	3 42.666		
		35.6	44.3	53.2	18 44.37	4 41.735	+0 51.57	− 12.146
H.	Star B. . . .	7.8	16.5	25.3	20 16.53	3 42.738		
		59.4	8.0	17.0	21 8.13	4 41.777	0 51.60	− 12.116
		23.8	32.6	41.4	22 32.60	3 33.224	2 16.07	+ 9.514
		37.9	46.4	55.3	23 46.53	3 42.881	3 30.00	− 0.143
	Star B. . . .	1.9	10.7	19.6	25 10.73	3 42.912		
		53.5	2.2	11.1	26 2.27	4 41.965	0 51.54	− 12.130
		17.9	26.8	35.6	27 26.77	3 33.355	2 16.04	+ 9.557
		31.8	40.8	49.5	28 40.70	3 43.044	3 29.97	− 0.132
	Star B. . . .	15.0	23.8	32.8	30 23.87	3 42.925		
		6.7	15.3	24.2	31 15.40	4 . .	0 51.53	
		31.2	40.0	48.8	32 40.00	3 33.440	2 16.13	+ 9.485
		45.1	53.9	2.9	33 53.97	3 43.063	3 30.10	− 0.138
	Star B. . . .	45.4	54.3	3.1	35 54.27	3 43.073		
		. .	45.8	. .	36 45.80	4 . .	0 51.53	
		1.6	10.4	19.2	38 10.40	3 33.553	2 16.13	+ 9.520
		15.2	24.2	33.1	4 39 24.17	3 43.303	+3 29.90	− 0.230

RESULTS.

	α h. m. s.	δ ° ′ ″
Star B.	8 29 56.05	+19 59 6.24

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
B. 1,	−1 46.74	.00	− 3 2.95	− .06
B. 2,	+1 6.46	.00	− 0 53.28	− .02
B. 3,	+2 10.13	.00	+ 1 39.45	+ .03
B. 4,	+3 15.85	.00	+ 4 11.78	+ .06
B. 5,	+5 4.48	.00	+ 4 26.68	+ .08
B. 6,	−2 21.82	.00	+ 3 56.03	+ .07
B. 7,	+1 28.53	.00	+ 4 40.58	+ .09
B. 8,	+2 37.77	.00	+ 1 13 37	+ .02
B. 9,	+3 47.00	.00	+ 2 1.52	+ .04
B. 10,	+5 0.89	.00	+ 2 14.35	+ .04
B. 11,	−0 38.91	.00	+ 5 5.38	+ .09
B. 12,	+2 17.39	.00	+ 1 44.55	+ .02
B. 13,	+3 16.02	.00	+ 4 13.42	+ .07
B. 14,	−0 12.80	.00	+ 2 37.60	+ .06

	α h. m. s.	δ ° ′ ″
Star B.	8 29 56.28	+19 59 5.34

		Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
Cloudy at times.	B. 1,	+0 51.55	.00	−3 6.06	− .06
	B. 2,	+2 16.09	.00	+2 26.00	+ .06
	B. 3,	+3 29.99	.00	−0 2.47	.01
	B. 4,	+0 33.40	.00	+2 2.73	+ .05

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m s.	revs.
Nov. 12	Star B. . . .	52.4	1.2	10.0	4 47 1.20	3 43.388		
H.		25.8	34.8	43.6	47 34.73	3 . .	+0 33.53	
	Star B. . . .	47.8	56.5	5.4	48 56.57	3 43.439		
		21.3	29.9	38.7	49 29.97	3 35.437	0 33.40	+ 8.002
	Star B. . . .	41.0	49.8	58.5	50 49.77	3 43.496		
		14.3	23.2	13.9	51 23.13	3 35.560	0 33.36	7.936
	Star B. . . .	30.0	38.7	47.5	52 38.73	3 43.595		
		3.2	12.0	20.9	53 12.03	3 35.528	0 33.30	+ 8.067
	Star K. . . .	46.0	54.9	3.6	57 54.83	3 38.502		
		16.4	25.2	34.1	58 25.23	3 40.107	0 30.40	— 1.605
	Star K. . . .	53.4	2.0	11.0	59 2.13	3 38.766		
		24.0	32.8	41.6	4 59 32.80	3 40.436	0 30.67	1.670
	Star K. . . .	54.5	3.2	12.1	5 0 3.27	3 38.923		
		25.1	33.9	42.6	0 33.87	3 40.570	+0 30.60	— 1.647
		10.7	19.3	28.2	7 19.40	2 43.207	—0 47.63	+ 8.788
	Star K. . . .	58.2	7.0	15.9	8 7.03	3 39.210		
		58.1	6.9	15.8	9 6.93	2 44.957	+0 59.90	7.038
		7.2	16.2	24.9	10 16.10	2 39.654	+2 9.07	12.341
		8.2	17.1	26.0	12 17.10	2 43.363	—0 47.63	8.792
	Star K. . . .	56.0	4.7	13.5	13 4.73	3 39.370		
		55.9	4.7	13.4	14 4.67	2 45.124	+0 59.94	7.031
		4.9	13.8	22.3	15 13.67	2 39.737	+2 8.94	12.418
		0.0	8.5	17.6	17 8.70	2 43.503	—0 47.67	8.818
	Star K. . . .	47.7	56.3	5.1	17 56.37	3 39.536		
		47.6	56.1	5.1	18 56.27	2 45.326	+0 59.90	6.995
		56.5	5.3	14.1	20 5.30	2 40.050	+2 8.93	+ 12.271
		5.6	14.4	23.3	23 14.43	3 46.815	—0 5.84	— 2.941
	Star K. . . .	11.5	20.2	29.1	23 20.27	3 43.874		
		39.1	47.9	53.8	23 47.93	3 46.763	0 5.87	2.853
	Star K. . . .	45.0	53.8	2.6	23 53.80	3 43.910		
		12.4	21.2	30.1	24 21.23	3 46.976	—0 5.77	2.879
	Star K. . .	18.2	27.0	35.8	24 27.00	3 44.097		
	Star K. . . .	11.7	20.5	29.4	30 20.53	3 44.251		
		13.0	21.8	30.7	30 21.83	3 47.051	+0 1.30	2.800
	Star K. . . .	45.8	54.4	3.3	30 54.50	3 44.322		
		47.1	55.8	4.4	30 55.77	3 47.050	0 1.27	2.728
	Star K. . . .	16.2	24.9	33.9	31 25.00	3 44.357		
		17.4	26.1	35.1	31 26.20	3 47.075	0 1.20	2.718
	Star K. . . .	38.7	47.5	56.3	35 47.50	3 44.472		
		0.5	9.2	18.0	36 9.23	3 49.240	0 21.73	4.768
	Star K. . . .	31.5	40.3	49.1	36 40.30	3 44.534		
		53.3	2.0	11.0	37 2.10	3 49.230	0 21.80	4.696
	Star K. . . .	24.2	32.9	42.0	37 33.03	3 44.580		
		46.1	54.8	3.7	37 54.87	3 49.391	0 21.84	4.811
	Star K. . . .	24.6	33.4	42.1	45 33.37	3 44.966		
		34.3	43.4	52.2	45 43.30	4 55.064	0 9.93	23.175
	Star K. . . .	5.7	14.6	23.3	46 14.53	3 45.030		
		16.0	24.6	33.4	46 24.67	4 55.281	0 10.14	23.328
	Star K. . .	47.0	55.8	4.6	46 55.80	3 45.071		
		57.1	5.8	14.7	5 47 5.87	4 55.221	+0 10.07	— 23.227

RESULTS

	α h. m. s.	δ ° ′
Star K	8 32 12.02	+20 1 28.66

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
K. 1,	+0 30.56	.00	— 0 25.17	— .01
K. 2,	—0 47.64	.00	+ 2 14.96	+ .05
K. 3,	+0 59.91	.00	+ 1 47.68	+ .04
K. 4,	+2 8.98	.00	+ 3 9.31	+ .06
K. 5,	—0 5.83	.00	— 0 44.34	— .02
K. 6,	+0 1.26	.00	— 0 42.16	— .02
K. 7,	+0 21 79	.00	— 1 12.97	— .02
K. 8,	+0 10 05	.00	— 5 56.48	— .12
K 9,	+0 29 43	.00	— 4 36.08	— .09

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Nov. 12 H.	Star K. . . .	49.1 18.5	57.9 27.3	6.8 56.1	5 54 57.93 55 27.30	3 45.354 4 50.284	 +0 29.37	 — 18.007	
	Star K. . . .	53.3 22.6	2.0 31.6	11.0 40.4	56 2.10 56 31.53	3 45.426 4 50.343	 0 29.43	 17.994	
	Star K. . . .	59.7 29.1	8.4 37.9	17.1 46.7	57 8.40 5 57 37.90	3 45.434 4 50.359	 +0 29.50	 — 18.002	
Nov. 15 H.	Star B. . . .	47.1 20.1	55.9 29.5	5.0 38.3	4 15 56.00 16 29.30	3 44.386 3 36.465	 +0 33.30	 + 7.921	A very high wind during the first half of the observations.
	Star B. . . .	46.5 19.7	55.3 28.4	4.2 37.7	17 55.33 18 28.60	3 44.460 3 36.523	 0 33.27	 7.933	α δ h. m. s. ° ′ ″ Star B. . . . . 8 29 56.33 +19 59 4.89
	Star B. . . .	42.1 15.7	51.1 24.4	59.9 33.3	19 51.03 20 24.47	3 44.436 3 36.708	 0 33.44	 7.728	Δ α Δ ρ Δ δ Δ ρ m. s. s. ′ ″ ″ B. 1, +0 33.34 .00 + 2 0.57 + .05
	Star K. . . .	38.2 37.6 48.0	47.0 46.2 56.4	55.6 55.0 5.4	23 46.93 24 46.27 26 56.60	3 35.063 2 40.817 4 47.277	 0 59.34 3 9.67	 + 7.031 — 25.291	α δ h. m. s. ° ′ ″ Star K. . . . . 8 32 12.12 +20 1 22.03
	Star K. . . .	43.4 43.7 54.0	52.2 52.3 2.8	1.3 1.0 11.4	31 52.30 32 52.33 35 2.73	3 35.371 2 41.127 4 47.590	 0 60.03 3 10.43	 + 7.029 — 25.296	Δ α Δ ρ Δ δ Δ ρ m. s. s. ′ ″ ″ K. 1, +0 59.70 .00 + 1 48.04 + .04 K. 2, +3 10.08 .00 — 6 27.64 — .14 K. 3, +0 26.57 .00 — 5 15.13 — .11 K. 4, +0 14.09 .00 — 6 40.89 — .14 K. 5, +1 8.38 .00 — 1 40.12 — .03 K. 6, +2 52.24 .00 — 4 44.69 — .09 K. 7, +0 50.68 .00 — 0 27.55 — .01 K. 8, —0 50.94 .00 + 7 19.43 + .15
	Star K. . . .	13.9 13.6 24.0	22.6 22.3 32.7	31.4 31.2 41.6	36 22.63 37 22.37 39 39.77	3 35.499 2 41.213 4 47.656	 0 59.74 3 10.14	 + 7.071 — 25.234	
	Star K. . . .	42.9 9.7	51.6 18.3	0.4 27.2	41 51.63 42 18.40	3 35.816 4 43.142	 0 26.77	 20.403	
	Star K. . . .	39.2 5.9	48.0 14.1	56.8 23.2	42 48.00 43 14.40	3 35.770 4 43.292	 0 26.40	 20.599	
	Star K. . . .	34.6 1.1	43.0 9.6	52.0 18.5	43 43.20 44 9.73	3 35.847 4 43.385	 0 26.53	 20.615	
	Star K. . . .	5.0 18.9	13.7 27.7	22.5 36.7	50 13.73 50 27.77	3 36.053 4 49.060	 0 14.04	 26.084	
	Star K. . . .	46.3 0.7	55.2 9.0	4.0 18.0	50 55.17 51 9.23	3 36.020 4 49.160	 0 14.06	 26.217	
	Star K. . . .	28.7 42.9	37.6 51.5	46.2 0.6	51 37.50 51 51.67	3 36.074 4 49.110	 0 14.17	 26.113	
	Star K. . . .	22.8 31.2 15.0	31.6 40.0 28.8	40.3 48.7 32.4	4 59 31.57 5 0 39.97 2 23.73	3 36.246 3 42.712 4 41.734	 1 8.40 2 52.16	 6.466 18.565	
	Star K. . . .	22.0 30.6 14.5	30.9 39.1 23.1	39.6 48.0 32.0	3 30.83 4 39.23 6 23.20	3 36.374 3 42.907 4 41.813	 1 8.40 2 52.37	 6.533 18.516	
	Star K. . . .	45.3 53.8 37.5	54.0 2.2 46.2	2.9 11.2 55.1	7 54.07 9 2.40 10 46.27	3 36.505 3 43.089 4 42.034	 1 8.33 2 52.20	 6.584 18.606	
	Star K. . . .	17.4 8.0	26.2 16.9	35.0 25.7	12 26.20 13 16.87	3 36.657 3 38.486	 0 50.67	 1.829	
	Star K. . . .	17.3 8.1	26.1 16.8	35.1 25.7	14 26.17 15 16.87	3 36.754 3 38.561	 0 50.70	 1.807	
	Star K. . . .	21.2 11.9	29.9 20.6	38.7 29.3	16 29.93 17 20.60	3 36.740 3 38.493	 +0 50.67	 — 1.753	
	 Star K. . . .	55.2 46.2	4.0 55.0	12.8 3.7	24 4.00 5 24 54.97	2 35.738 4 38.526	—0 50.97	+ 28.650	

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. $\Delta\alpha$	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 15		9.9	18.6	27.4	5 26 18.63	2 35.798	−0 50.94	+ 28.705
	Star K. . . .	0.8	9.6	18.3	27 9.57	4 38.641		
H.		17.2	25.9	35.0	28 26.03	2 35.930	0 50.90	28.598
	Star K. . . .	8.1	17.0	25.7	29 16.93	4 38.666		
		55.8	4.6	13.4	34 4.60	2 38.387	−1 29.50	+ 12.281
	Star D. . . .	25.4	34.0	42.9	35 34.10	3 37.883		
		41.4	50.2	59.0	36 50.20	3 38.734	+1 16.10	− 0.851
		54.7	3.2	12.1	38 3.33	3 39.836	+2 29.23	− 1.953
		12.1	20.8	29.6	40 20.83	2 38.611	−1 29.60	+ 12.239
	Star D. . . .	41.8	50.3	59.2	41 50.43	3 38.065		
		57.9	6.5	15.3	43 6.57	3 38.969	+1 16.14	− 0.904
		11.0	19.6	28.4	44 19.67	3 40.006	+2 29.24	− 1.941
		44.2	53.0	1.8	45 53.00	2 38.710	−1 29.53	+ 12.265
	Star D. . .	13.9	22.4	31.3	47 22.53	3 38.190		
		30.0	38.7	47.6	48 38.77	3 39.060	+1 16.24	− 0.870
		43.0	51.8	0.7	49 51.83	3 40.044	+2 29.30	1.854
		59.0	7.9	16.6	51 7.83	3 45.466	−0 28.77	6.990
	Star D. . . .	27.9	36.6	45.3	51 36.60	3 38.476		
		2.7	11.1	20.0	52 11.27	3 45.661	0 28.50	7.119
	Star D. . . .	31.0	39.7	48.6	52 39.77	3 38.542		
		2.5	11.4	20.0	53 11.30	3 45.703	−0 28.63	7.096
	Star D. . . .	31.1	39.9	48.8	5 53 39.93	3 38.607		
	Star D. . . .	15.8	24.6	33.2	6 2 24.53	3 39.746		
		19.0	28.0	36.8	2 27.93	4 46.525	+0 3.40	19.856
	Star D. . . .	51.8	0.6	9.3	3 0.57	3 39.897		
		55.0	3.8	12.7	3 3.83	4 46.740	0 3.26	19.920
	Star D. . . .	26.1	34.8	43.4	3 34.73	3 39.925		
		29.3	38.1	46.9	3 38.10	4 46.706	0 3.37	19.858
	Star D. . . .	3.7	12.3	21.2	13 12.40	3 35.139		
		56.3	5.2	14.1	14 5.20	3 36.546	0 52.80	1.407
	Star D. . .	40.7	49.2	58.1	15 49.33	3 35.160		
		33.4	42.2	51.0	16 42.20	3 36.650	0 52.87	1.490
	Star D. .	53.1	1.9	10.9	18 1.97	3 35.184		
		46.0	54.9	3.8	18 54.90	3 36.673	0 52.93	1.489
	Star D. . . .	38.8	47.6	56.2	21 47.53	3 35.270		
		45.2	54.0	2.8	22 54.00	3 43.330	1 6.47	8.060
	Star D. . . .	28.4	37.1	46.0	24 37.17	3 35.316		
		35.0	43.7	52.6	25 43.77	3 43.383	1 6.60	8.067
	Star D. . . .	3.3	12.1	21.0	27 12.13	3 35.334		
		10.1	18.8	27.6	28 18.83	3 43.490	1 6.70	− 8.156
	Star D. . . .	26.8	35.7	44.4	31 35.63	3 35.442		
		41.8	50.4	59.3	32 50.50	3 32.334	1 14.87	+ 3.108
	Star D. . . .	8.3	17.1	26.0	34 17.13	3 35.452		
		23.2	31.9	40.6	35 31.90	3 32.490	1 14.77	2.962
	Star D. . . .	3.7	12.3	21.1	37 12.37	3 35.530		
		18.7	27.2	36.1	6 38 27.33	3 32.460	+1 14.96	+ 3.070
Nov. 24	Star K. . . .	50.6	59.4	8.2	4 34 59.40	3 37.318		
H.		. .	59.3	8.2	35 59.33	2 43.063	+0 59.93	+ 7.040
		0.7	9.7	18.6	38 9.67	4 49.518	3 10.27	− 25.277
	Star K. . . .	19.5	28.2	37.3	39 28.33	3 37.604		
		19.5	28.2	37.1	40 28.27	2 43.304	0 59.94	+ 7.085
		30.0	38.8	47.6	4 42 38.80	4 49.795	+3 10.47	− 25.268

RESULTS.

	α	δ
	h. m. s.	° ′ ″
Star D.	8 31 21.34	+20 8 45.78

	$\Delta\alpha$	$\Delta\rho$	$\Delta\delta$	$\Delta\rho$
	m. s.	s.	′ ″	″
D. 1,	−1 29.54	.00	+ 3 8.07	+ .06
D. 2,	+1 16.16	.00	− 0 13.42	.00
D. 3,	+2 29.26	.00	− 0 29.39	− .01
D. 4,	−0 28.63	.00	− 1 48.40	− .03
D. 5,	+0 3.34	.00	− 5 4.88	− .09
D. 6,	+0 52.87	.00	− 0 22.42	.00
D. 7,	+1 6.59	.00	− 2 4.14	− .04
D. 8,	+1 14.87	.00	+ 0 46.73	+ .01

	h. m. s.	° ′ ″
Star K.	8 32 12.41	+20 1 27.00

$\Delta\alpha$	$\Delta\rho$	$\Delta\delta$	$\Delta\rho$
m. s.	s.	′ ″	
+0 59.90	.00	+ 1 47.42	+ .04
+3 10.40	.00	− 6 28.44	− .14

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 24	Star K. . . .	2.1	11.0	19.8	4 44 10.97	3 37.645		
		2.0	10.8	19.6	45 10.80	2 43.542	+0 59.83	+ 6.888
		12.7	21.4	30.2	47 21.43	4 50.002	+3 10.46	— 25.434
H.		3.1	11.9	20.7	53 11.90	2 40.339	—0 3.43	+ 11.274
	Star D. . . .	6.6	15.3	24.1	53 15.33	3 38.828		
		37.8	46.5	55.3	53 46.53	2 40.342	0 3.44	11.276
	Star D. . . .	41.0	50.1	58.8	53 49.97	3 38.833		
		16.6	25.4	34.3	54 25.43	2 40.297	0 3.44	11.386
	Star D. . . .	20.0	28.9	37.7	54 28.87	3 38.898		
		49.0	57.8	6.7	54 57.83	2 40.366	0 3.30	11.308
	Star D. . . .	52.4	1.0	10.0	55 1.13	3 38.889		
		24.4	33.3	42.2	55 33.30	2 40.424	—0 3.47	11.382
	Star D. . . .	27.9	36.8	45.6	4 55 36.77	3 39.021		
	Star D. . . .	50.9	59.7	8.6	5 5 59.73	3 38.999		
		28.1	36.8	45.7	7 36.87	2 40.909	+1 37.14	10.875
	Star D. . . .	13.9	22.6	31.6	9 22.70	3 39.372		
		51.2	0.0	8.7	10 59.97	2 41.238	1 37.27	10.919
	Star D. . . .	52.0	0.8	9.6	12 0.80	3 39.536		
		29.1	37.9	46.9	13 37.97	2 41.300	1 37.17	11.021
	Star D. . . .	37.1	46.0	54.7	18 45.93	3 39.884		
		35.9	44.9	53.8	19 44.87	2 39.614	0 58.94	13.055
	Star D. . . .	55.3	4.1	13.0	21 4.13	3 39.848		
		54.2	3.0	11.8	22 3.00	2 39.940	0 58.87	12.693
	Star D. . . .	27.9	36.7	45.8	23 36.80	3 39.975		
		26.9	35.7	44.5	24 35.70	2 39.750	0 58.90	13.010
	Star D. . . .	54.9	3.7	12.4	26 3.67	3 39.963		
		59.0	7.6	16.4	26 7.67	3 39.694	0 4.00	0.269
	Star D. . . .	31.2	40.0	48.9	26 40.03	3 40.087		
		35.2	44.1	52.9	26 44.07	3 39.754	0 4.04	0.333
	Star D. . . .	2.5	11.1	20.0	27 11.20	3 40.240		
		6.4	15.3	24.2	27 15.30	3 39.799	0 4.10	+ 0.441
	Star D. . . .	24.0	32.8	41.6	34 32.80	3 43.895		
		17.0	25.7	34.5	35 25.73	3 45.301	0 52.93	— 1.406
	Star D. . . .	44.0	52.5	1.4	36 52.63	3 44.238		
		36.9	45.8	54.4	37 45.70	3 45.514	0 53.07	1.276
	Star D. . . .	59.0	7.9	16.7	39 7.87	3 44.027		
		52.2	0.9	2.6	40 0.90	3 45.474	0 53.03	1.447
	Star D. . . .	20.9	29.7	38.6	41 29.73	3 44.170		
		27.8	36.3	45.0	42 36.37	4 39.468	1 6.64	8.375
	Star D. . . .	57.2	6.0	41.8	44 6.00	3 44.227		
		4.0	12.5	21.3	45 12.60	3 52.381	1 6.60	8.154
	Star D. . . .	38.6	47.5	56.3	46 47.47	3 44.281		
		45.5	54.4	3.0	47 54.30	3 52.402	1 6.83	— 8.121
	Star D. . . .	55.6	4.3	13.2	52 4.37	3 44.602		
		15.8	24.6	33.5	53 24.63	3 41.617	1 20.26	+ 2.985
		24.8	33.6	42.6	54 33.67	3 46.560	2 29.30	— 1.958
	Star D. . . .	50.9	59.8	8.4	55 59.70	3 44.618		
		11.0	20.0	28.7	57 19.90	3 41.605	1 20.20	+ 3.013
		20.1	28.9	37.7	5 58 28.90	3 46.516	+2 29.20	— 1.898

RESULTS.

	α h. m. s.	δ ° ′ ″
Star D.	8 31 21.64	+20 8 44.60

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
D. 1,	—0 3.42	.00	+ 2 53.70	+ .07
D. 2,	+1 37.19	.00	+ 2 47.69	+ .06
D. 3,	+0 58.90	.00	+ 3 18.15	+ .07
D. 4,	+0 4.05	.00	+ 0 5.34	.00
D. 5,	+0 53.01	.00	— 0 21.10	.00
D. 6,	+1 6.69	.00	— 2 6.03	— .04
D. 7,	+1 20.23	.00	+ 0 45.90	+ .02
D. 8,	+2 29.27	.00	— 0 29.31	— .01
D. 9,	+1 16.20	.00	— 0 12.48	.00
D. 10,	+2 36.72	.00	— 0 34.69	— .01

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT. A.	B.	C.	Mean.	MIC.	STARS. Δ α	Δ mic.
1864.		s.	s.	s.	h. m. s.	revs.	m. s.	revs.
Nov. 24	Star D. . . .	25.2	34.0	42.8	5 59 34.00	3 44.670		
		45.6	54.1	3.0	6 0 54.23	3 41.690	+1 20.23	+ 2.980
H.		54.5	3.4	12.0	2 3.30	3 46.546	2 29.30	— 1.876
	Star D. . . .	58.9	7.7	16.5	4 7.70	3 44.998		
		15.0	23.9	32.7	5 23.87	3 45.746	1 16.17	0.748
		35.6	44.1	53.2	6 44.30	3 47.290	2 36.60	2.292
	Star D. . . .	10.4	19.6	28.1	8 19.37	3 45.086		
		26.9	35.4	44.2	9 35.50	3 45.962	1 16.13	0.876
		47.5	56.0	4.8	10 56.10	3 47.333	2 36.73	2.247
	Star D. . . .	35.0	43.8	52.7	12 43.83	3 45.337		
		51.3	0.1	9.1	14 0.17	3 46.156	1 16.34	0.819
		11.9	20.7	29.4	6 15 20.67	3 47.585	+2 36.84	— 2.248
Nov. 29	Star D. . . .	58.7	7.6	16.4	4 58 7.57	3 44.430		
H.		35.2	44.0	52.8	58 44.00	2 32.867	+0 36.43	+ 24.348
	Star D. . . .	6.6	15.6	24.6	59 15.60	3 44.364		
		43.2	52.1	0.9	4 59 52.07	2 32.904	0 36.47	24.245
	Star D. . . .	13.2	22.0	30.9	5 0 22.03	3 44.452		
		49.5	58.4	7.3	0 58.40	2 32.969	0 36.37	24.268
	Star D. . . .	20.7	29.4	38.1	1 29.40	3 44.586		
		57.2	5.9	14.7	2 5.93	2 32.928	0 36.53	24.443
	Star D. . . .	33.7	42.5	51.2	2 42.47	3 44.593		
		10.0	18.8	27.7	3 18.83	2 33.054	0 36.36	+ 24.324
	Star D. . . .	4.3	13.1	22.0	16 13.13	3 44.658		
		20.6	29.4	38.1	17 29.37	3 45.555	1 16.24	— 0.897
	Star D. . . .	44.2	52.9	1.8	24 52.97	3 44.874		
		0.4	9.2	17.9	26 9.17	3 45.783	1 16.20	0.909
	Star D. . . .	44.7	53.3	2.2	28 53.40	3 45.004		
		0.8	9.7	18.5	30 9.67	3 45.909	1 16.27	— 0.905
	Star D. . . .	34.7	43.1	52.1	31 43.30	3 45.104		
		11.8	20.6	29.5	33 20.63	2 46.918	1 37.33	+ 10.971
	Star D. . . .	8.6	17.3	26.2	35 17.37	3 45.264		
		45.9	54.6	3.6	36 54.70	2 47.023	1 37.33	11.026
	Star D. . . .	47.9	56.7	5.4	37 56.67	3 45.302		
		25.2	33.9	42.7	39 33.93	2 47.065	1 37.26	11.022
	Star D. . . .	24.0	32.8	41.4	52 32.73	3 41.986		
		38.9	47.6	56.4	5 53 46.63	3 38.990	+1 13.90	+ 2.996
Dec. 3	Star F. . . .	36.2	45.0	53.8	4 20 45.00	3 37.656		
H.		14.7	23.6	32.2	21 23.50	4 45.866	+0 38.50	— 21.287
	Star F. . . .	16.2	25.1	34.0	23 25.10	3 37.744		
		54.9	3.4	12.3	24 3.53	4 .	0 38.43	
	Star F. . . .	2.7	11.4	20.3	25 11.47	3 37.788		
		41.3	50.0	58.8	25 50.03	4 45.903	0 38.56	21.192
	Star F. . . .	30.8	39.4	48.3	27 39.50	3 37.904		
		9.3	18.0	26.9	28 18.07	4 46.038	0 38.57	21.211
	Star F. . . .	24.9	33.5	42.6	32 33.67	3 38.224		
		47.5	56.2	5.0	32 56.23	4 36.529	0 22.56	11.382
	Star F. . . .	20.0	28.7	37.6	33 28.77	3 38.221		
		42.5	51.3	0.1	33 51.30	4 36.535	0 22.53	— 11.391
	Star F. . . .	44.6	53.2	2.2	39 53.33	3 38.399		
		19.9	28.7	37.3	4 40 28.63	3 35.910	+0 35.30	+ 2.489

RESULTS.

	α h. m. s.	δ ° ′ ″
Star D.	8 31 21.78	+20 8 43.94

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
D. 1,	+0 36.43	.00	+ 6 13.09	+ .13
D. 2,	+1 16.24	.00	— 0 13.86	.00
D. 3,	+1 37.31	.00	+ 2 48.80	+ .06
D. 4,	+1 14.90	.00	+ 0 45.95	+ .01

	α h. m. s.	δ ° ′ ″
Star F.	8 31 58.35	+20 14 55.38

	Δ α m. s.	Δ ρ s.	Δ δ ′ ″	Δ ρ ″
F. 1,	+0 38.51	.00	— 5 25.61	— .11
F. 2,	+0 22.54	.00	— 2 54.63	— .06
F. 3,	+0 35.16	.00	+ 0 38.42	+ .01
F. 4,	+0 18.08	.00	+ 1 44.83	+ .03
F. 5,	—2 5.96	.00	— 3 5.09	— .05
F. 6,	—1 9.06	.00	+ 4 45.61	+ .09
F. 7,	+1 28.13	.00	+ 3 17.07	+ .06
F. 8,	—3 58.21	.00	— 1 1.70	— .02
F. 9,	—2 31.62	.00	+ 1 7.25	+ .02
F. 10,	+1 27.08	.00	+ 4 47.24	+ .08
F. 11,	+0 40 79	.00	+ 3 30.67	+ .06

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Dec. 3	Star F. . . .	51. 0	59. 8	8. 5	4 40 59. 77	3 38. 481			
H.		26. 1	34. 8	43. 5	41 34. 80	3 35. 960	+0 35. 03	+ 2. 521	
	Star F. . . .	33. 2	46. 4	59. 4	51 46. 33	3 38. 737			
		51. 5	4. 2	17. 3	52 4. 33	3 31. 867	0 18. 00	6. 870	
	Star F. . . .	30. 2	43. 1	56. 1	52 43. 13	3 38. 716			
		48. 6	1. 3	14. 3	53 1. 40	3 31. 857	0 18. 27	6. 859	
	Star F. . . .	28. 7	41. 6	54. 5	53 41. 60	3 38. 819			
		46. 7	59. 4	12. 6	4 53 59. 57	3 32. 042	+0 17. 97	+ 6. 777	
		11. 6	20. 4	29. 5	5 2 20. 50	4 37. 923	—2 5. 87	— 11. 970	
		. .	17. 3	26. 2	3 17. 27	2 33. 236	—1 9. 10	+ 18. 579	
	Star F. . . .	. .	26. 4	35. 3	4 26. 37	3 39. 030			
		45. 7	54. 5	3. 5	5 54. 57	2 39. 058	+1 28. 20	+ 12. 757	
		29 2	38. 0	46. 7	7 37. 97	4 38. 165	—2 5. 90	— 12. 082	
		26. 0	34. 9	44. 0	8 34. 97	2 33. 355	—1 8. 90	+ 18. 590	
	Star F. . . .	35. 0	43. 9	52. 7	9 43. 87	3 39. 160			
		3. 4	12. 0	20. 9	11 12. 10	2 39. 040	+1 28. 23	+ 12. 905	
		44. 2	53. 0	2. 0	12 53. 07	4 38. 292	—2 6. 06	— 12. 119	
		41. 1	49. 8	59. 0	13 49. 97	2 33. 304	—1 9. 16	+ 18. 731	
	Star F. . . .	50. 3	59. 1	8. 0	14 59. 13	3 39. 250			
		18. 5	27. 2	36. 0	16 37. 23	2 39. 140	+1 28. 10	+ 12. 895	
		36. 4	45. 2	54. 0	18 45. 20	4 38. 346	—2 6. 00	— 12. 103	
		33. 2	42. 0	51. 1	19 42. 10	2 33. 517	—1 9. 10	+ 18. 588	
	Star F. . . .	42. 3	51. 2	0. 1	20 51. 20	3 39. 320			
		10. 4	19. 2	28. 0	22 19. 20	2 39. 265	+1 28. 00	+ 12. 840	
		16. 8	25. 6	34. 4	27 25. 60	3 43. 794	—3 58. 17	— 3 924	
		43. 3	52. 0	1. 2	28 52. 17	3 35. 347	—2 31. 60	+ 4. 523	
	Star F. . .	14. 9	23. 7	32. 7	31 23. 77	3 39. 870			
		42. 0	50. 9	59. 6	32 50. 83	2 33. 764	+1 27. 06	+ 18. 891	
		31. 8	40. 5	49. 2	34 40. 50	3 44. 091	—3 58. 17	— 4. 077	
		58. 2	7. 1	15. 9	36 7. 07	3 35. 707	—2 31. 60	+ 4. 307	
	Star F. . . .	29. 9	38. 7	47. 4	38 38. 67	3 40. 014			
		57. 0	5. 9	14. 9	40 5. 93	2 34. 118	+1 27. 26	+ 18. 681	
		56. 0	4. 7	13. 6	42 4. 77	3 44. 280	—3 58. 30	— 4. 068	
		22. 7	31. 3	40. 2	43 31. 40	3 35. 886	—2 31. 67	+ 4. 326	
	Star F. . . .	54. 3	3. 0	11. 9	46 3. 07	3 40. 212			
		21. 3	29. 9	38. 8	47 30. 00	2 34. 384	+1 26. 93	18. 613	
	Star F. . . .	38. 1	47. 0	55. 7	51 46. 93	3 40. 391			
		19. 0	27. 6	36. 5	52 27. 70	2 39. 510	0 40. 77	13. 66	
	Star F. . . .	57. 4	6. 2	15. 1	53 6. 23	3 40. 458			
		38. 3	47. 2	56. 0	53 47. 17	2 39. 484	0 40. 94	13. 759	
	Star F. . . .	12. 9	21. 7	30. 7	54 21. 77	3 40. 500			
		53. 7	2. 6	. .	55 2. 57	2 39. 530	0 40. 80	13. 755	
	Star F. . . .	10. 7	19. 4	28. 5	56 19. 53	3 40. 516			
		51. 4	0. 1	9. 1	5 57 0. 20	2 39. 538	+0 40. 67	+ 13. 763	
Dec. 24		26. 0	35. 0	43. 8	3 39 34. 93	3 44. 085	—2 56. 57	— 5. 427	
H.	Star F. . . .	22. 9	31. 4	40. 2	42 31. 50	3 38. 658			
		50. 7	59. 5	8. 6	43 59. 60	2 38. 575	+1 28. 10	+ 12. 868	
		4. 4	13. 3	22. 1	46 13. 27	3 44. 437	—2 56. 73	— 5. 400	
	Star F. . . .	1. 1	10. 0	18. 9	49 10. 00	3 39. 037			
		29. 2	38. 0	46. 7	50 37. 97	2 38. 836	+1 27. 97	+ 12. 986	
		22. 3	31. 2	40. 3	3 57 31. 27	3 44. 884	—2 56. 70	— 5. 473	
	Star F. . . .	19. 1	28. 0	36. 8	4 0 27. 97	3 39. 411			
		47. 3	56. 1	5. 0	1 56. 13	2 39. 300	+1 28. 16	+ 12. 896	
		54. 9	3. 3	12. 2	4 3 3. 47	4 38. 004	+2 35. 50	— 11. 670	

RESULTS.

	α		
	h. m. s.	° ′	
Star F.	8 31 58.95	+20 14 53.30	

	Δ α	Δ ρ	Δ δ	Δ ρ
	m. s.	s.	′ ″	″
F. 1,	—2 56. 67	. 00	— 1 23. 33	— . 03
F. 2,	+1 28. 08	. 00	+ 3 18. 11	+ . 07
F. 3,	+2 35. 41	. 00	— 2 58. 13	— . 06
F. 4,	+1 26. 87	. 00	+ 4 50. 65	+ . 09
F. 5,	+2 7. 50	. 00	+ 6 5. 02	+ . 12

(Continued.)

PRÆSEPE.

DATE.	OBJECTS.	OBS'D TIMES OF TRANSIT.				MIC.	STARS.		RESULTS.
		A.	B.	C.	Mean.		Δ α	Δ mic.	
		s.	s.	s.	h. m. s.	revs.	m. s.	revs.	
1864. Dec. 24	Star F. . . .	52.4	1.2	9.9	4 5 1.17	3 39.665			
		19.2	28.1	37.0	6 28.10	2 33.510	+1 26.93	+ 18.940	
H.		. .	36.6	45.5	7 36.57	4 38.119	2 35.40	— 11.531	
	Star F. . . .	17.3	26.0	35.0	10 26.10	3 39.835			
		44.1	52.8	1.8	11 52.90	2 33.657	1 26.80	+ 18.963	
		52.7	1.5	10.1	13 1.43	4 38.398	2 35.33	— 11.640	
	Star F. . . .	26.8	35.4	44.6	15 35.60	3 40.058			
		34.4	43.1	52.1	17 43.20	1 46.193	2 7.60	+ 23.781	
	Star F. . . .	9.5	18.6	27.2	19 18.43	3 40.076			
		17.2	26.0	34.8	21 26.00	1 46.263	2 7.57	23.729	
	Star F. . . .	52.1	1.0	9.8	24 0.97	3 40.295			
		59.5	8.3	17.1	26 8.30	1 46.267	2 7.33	23.944	
	Star F. . . .	49.1	57.9	6.7	28 57.90	3 40.316			
		56.6	5.5	14.3	31 5.47	1 46.576	2 7.57	23.656	
	Star F. . . .	0.2	9.0	17.7	33 8.97	3 40.572			
		7.7	16.3	25.2	35 16.40	1 46.603	+2 7.43	+ 23.885	
		16.6	25.2	34.1	45 25.30	3 46.985	—3 16.40	— 5.416	α δ
		53.7	2.3	11.1	47 2.37	2 32.739	1 39.33	+ 21.615	h. m. s. ° ′ ″
	Star L. . . .	33.0	41.6	50.5	48 41.70	3 41.569			Star L. . . . . 8 34 6.42 +20 21 58.91
		40.1	49.0	58.0	50 49.03	3 47.000	3 16.54	— 5.116	Δ α Δ ρ Δ δ Δ ρ
		17.6	26.3	35.1	52 26.33	2 32.910	1 39.24	+ 21.759	m. s. s. ′ ″ ″
	Star L. . . .	26.8	5.5	14.4	54 5.57	3 41.884			L. 1, —3 16.41 .00 — 1 20.97 — .03 L. 2, —1 39.26 .00 + 5 32.46 + .10 L. 3, —0 53.45 .00 + 3 32.68 + .06
		27.3	36.1	45.0	55 36.13	3 47.268	3 16.30	— 5.306	
		4.4	13.3	22.0	57 13.23	2 33.092	1 39.20	+ 21.655	
	Star L. . . .	43.7	52.4	1.2	4 58 52.43	3 41.962			
		50.7	59.4	8.2	5 0 59.43	2 41.290	0 53.47	13.899	
	Star L. . . .	44.0	52.9	1.8	1 52.90	3 42.404			
		12.6	21.6	30.4	3 21.53	2 41.346	0 53.34	13.904	
	Star L. . . .	6.1	14.8	. .	4 14.87	3 42.465			
		32.2	40.9	49.7	5 40.93	2 41.403	—0 53.57	+ 13.799	
	Star L. . . .	25.5	34.5	43.5	5 6 34.50	3 42.417			

OCCULTATIONS OF STARS BY THE MOON, 1864.

DATE.	OBJECTS.	PHASE.	CHRON. TIME.	CORR. CHRON.	CORRECTED TIME.	OBS'R.	REMARKS.
1864.			h. m. s.	m. s.	h. m. s.		
Jan. 23	A^1 Cancri	Immersion . .	10 34 7.5 sid.	— 2 22.30	10 31 45.20 sid.	H.	Emersion lost.
Feb. 13	53 Arietis	Immersion . .	5 52 20.8 mean.	0 58.68	5 51 22.12 mean.	H.	
14	ω^1 Tauri	Immersion . .	8 14 52.8 sid.	1 47.97	8 13 4.83 sid.	G.	Lumiere cendre quite distinct
14	ω^1 Tauri	Emersion . .	8 59 19.6 sid.	1 47.92	8 57 31.68 sid.	G.	
16	χ Orionis . . .	Immersion . .	9 50 59.3 mean.	1 3.61	9 49 55.69 mean.	H.	Very high wind.
16	χ Orionis . . .	Emersion . .	11 13 38.0 mean.	1 3.61	11 12 34.39 mean.	H.	
25	*g* Virginis . . .	Immersion . .	15 45 17.0 mean.	1 27.50	15 43 49.50 mean.	H.	Uncertain.
25	*g* Virginis . . .	Emersion . .	16 3 32.3 mean.	1 27.50	16 2 4.80 mean.	H.	
27	28 Libræ	Immersion . .	17 31 35.0 mean.	— 1 36.60	17 29 58.40 mean.	H.	Uncertain.
May 20	χ Libræ	Immersion . .	14 33 35.3 sid.	+ 0 1.62	14 33 36.92 sid.	F.	
June 20	*d* Sagittarii . . .	Immersion . .	16 10 2.0 sid.	0 0.24	16 10 2.24 sid.	F.	
July 23	62 Piscium . . .	Immersion . .	22 53 27.5 sid.	0 5.58	22 53 33.08 sid.	H.	Uncertain.
23	62 Piscium . . .	Emersion . .	23 37 46.7 sid.	0 5.58	23 37 52.28 sid.	H.	
23	δ Piscium . . .	Immersion . .	23 8 25.4 sid.	0 5.58	23 8 30.98 sid.	H.	
23	δ Piscium . . .	Emersion . .	0 26 50.8 sid.	0 5.58	0 26 56.38 sid.	H.	
Aug. 12	ξ Ophiuchi . . .	Immersion . .	18 4 15.4 sid.	+ 0 2.26	18 4 17.66 sid.	F.	
Nov. 4	ρ Sagittarii . . .	Immersion . .	8 23 24.0 mean.	— 4 27.67	8 18 56.33 mean.	F.	Dark limb distinctly visible.
5	B. A. C. 6992 .	Immersion . .	9 59 54.2 mean.	4 32.25	9 55 21.95 mean.	F.	
5	β Capricorni . .	Immersion . .	10 8 8.5 mean.	— 4 32.26	10 3 36.24 mean.	F.	Moon setting.

NOTE.—In the column headed Observer, the letters G. F. H. indicate that the observations were made by Captain Gilliss, Mr. Ferguson, or Professor Hall.

MEAN RIGHT ASCENSIONS FOR 1860.0

OF

STARS OBSERVED

WITH THE

TRANSIT INSTRUMENT,

1864.

MEAN RIGHT ASCENSIONS FOR 1860.0,

TRANSIT INSTRUMENT.

1864.		h.	m.	s.	Mag.
(*) — 23° 52′.					
Nov.	5	0	0	2.43	
***a* ANDROMEDÆ.**					
Jan.	27	0	1	9.44	
	28			9.53	
	29			9.42	
Feb.	4			9.47	
	5			9.44	
	8			9.40	
	9			9.49	
	10			9.44	
	11			9.43	
	16			9.45	
	19			9.41	
	20			9.43	
	24			9.44	
	25			9.46	
Mar.	2			9.44	
	3			9.44	
	9			9.47	
	14			(9.54)	
April	18			9.45	
	21			9.47	
	22			9.47	
May	4			9.40	
June	25			9.45	
July	22			9.41	
Nov.	24			9.41	
WEISSE 1267.					
Nov.	10	0	1	41.78	8.0
B. A. C. 12.					
Nov.	12	0	2	44.92	
(*) — 33° 33′.					
Nov.	5	0	4	12.99	9.0
Dec.	6			13.05	8.0
WEISSE 71.					
Dec.	24	0	4	49.10	9.0
γ PEGASI.					
April	26	0	6	1.85	
May	4			1.79	
	5			1.78	
July	22			1.78	
Oct.	29			1.73	
Nov.	24			1.75	

1864.		h.	m.	s.	Mag.
O. ARG. S. 65.					
Nov.	5	0	6	37.53	7.1
	10			37.46	7.5
Dec.	6			37.67	6.0
LACAILLE 17.					
Nov.	12	0	7	48.64	
LACAILLE 26.					
Oct.	29	0	9	28.54	7.5
Nov.	5			28.60	7.5
	10			28.52	7.6
Dec.	6			28.64	7.3
B. A. C. 49.					
Oct.	29	0	9	38.89	6.5
Nov.	5			38.92	7.0
	10			38.97	7.0
Dec.	6			38.93	6.7
B. A. C. 59.					
Aug.	12	0	11	16.91	5.7
LACAILLE 46.					
Nov.	24	0	13	9.37	7.0
(*) — 33° 31′.					
Nov.	5	0	13	14.33	8.3
Dec.	6			14.42	7.5
***d* PISCIUM.**					
July	22	0	13	23.74	
	23			23.95	
Nov.	10			23.77	
LACAILLE 52.					
Aug.	12	0	14	14.96	6.0
Nov.	12			15.01	6.7
O. ARG. S. 138.					
Dec.	6	0	14	47.32	8.0
LACAILLE 60.					
Nov.	24	0	15	45.84	

1864.		h.	m.	s.	Mag.
LACAILLE 62.					
Aug.	12	0	15	53.80	6.5
LACAILLE 72.					
Aug.	12	0	17	6.29	7.0
44 PISCIUM.					
July	23	0	18	13.70	
Nov.	5			13.56	
	10			13.55	
LACAILLE 81.					
Nov.	12	0	18	26.26	6.0
LACAILLE 92.					
Aug.	12	0	20	31.23	
LACAILLE 98.					
Oct.	25	0	21	27.27	
LACAILLE 100.					
Nov.	5	0	21	49.88	7.0
12 CETI.					
July	23	0	22	53.73	
	29			53.60	
Aug.	1			53.69	
	9			53.71	
	12			53.53	
SANTINI 30.					
July	29	0	26	42.73	
Aug.	1			42.84	7.0
B. A. C. 135.					
Nov.	12	0	26	45.21	6.0
Dec.	6			45.19	5.8
B. A. C. 136, (1st *.)					
Aug.	12	0	26	51.56	6.5
B. A. C. 136, (2d *.)					
Aug.	12	0	26	51.69	8.0

1864.		h.	m.	s.	Mag.
WEINSE 477.					
Dec.	22	0	28	16.55	7.5
(*) + 2° 33′.					
July	29	0	28	25.78	
Aug.	1			25.91	8.3
O. ARG. S. 284.					
Nov.	5	0	28	41.29	8.0
	10			41.02	8.5
	24			41.04	9.0
LACAILLE 142.					
Oct.	25	0	29	8.68	6.5
B. A. C. 161.					
July	29	0	30	18.09	7.0
O. ARG. S. 312.					
Nov.	29	0	31	7.59	8.0
LACAILLE 157.					
Nov.	5	0	31	51.65	6.2
B. A. C. 167.					
July	29	0	31	54.50	8.5
(*) — 18° 21′.					
Nov.	12	0	32	57.98	9.5
WEISSE 556.					
Dec.	24	0	33	5.98	9.0
(*) — 18° 17′.					
Nov.	12	0	33	10.83	9.0
LACAILLE 169.					
Oct.	25	0	33	40.16	
Nov.	29			40.23	6.0

O. Arg. S. 369.

1864.		h.	m.	s.	Mag.
Oct.	29	0	35	42.17	
Nov.	12			42.21	7.3
	24			42.26	7.5

Weisse 616.

1864.		h.	m.	s.	Mag.
Dec.	24	0	36	2.62	8.0

Weisse 620.

1864.		h.	m.	s.	Mag.
Aug.	1	0	36	17.65	8.3

β Ceti.

1864.		h.	m.	s.	Mag.
July	23	0	36	33.64	
Aug.	9			33.56	
	12			33.58	
Oct.	25			33.66	
Nov.	10			33.61	
	29			33.64	
Dec.	6			33.61	

B. A. C. 203.

1864.		h.	m.	s.	Mag.
Nov.	12	0	37	48.47	

Weisse 665.

1864.		h.	m.	s.	Mag.
Nov.	24	0	38	50.01	8.7

Lacaille 210.

1864.		h.	m.	s.	Mag.
Oct.	25	0	39	48.03	

60 Piscium.

1864.		h.	m.	s.	Mag.
July	29	0	40	9.47	6.0
Dec.	14			9.30	

Lacaille 216.

1864.		h.	m.	s.	Mag.
Aug.	12	0	40	49.70	7.0

Lalande 1299.

1864.		h.	m.	s.	Mag.
Nov.	24	0	41	2.74	7.0

Lacaille 219.

1864.		h.	m.	s.	Mag.
Aug.	1	0	41	6.44	

δ Piscium.

1864.		h.	m.	s.	Mag.
July	23	0	41	25.28	
Dec.	7			25.34	
	12			25.29	

O. Arg. S. 442.

1864.		h.	m.	s.	Mag.
Oct.	29	0	42	27.61	7.5
Nov.	10			27.60	7.2

Lacaille 224.

1864.		h.	m.	s.	Mag.
Aug.	1	0	42	39.78	6.5
Oct.	29			39.61	6.0
Nov.	10			39.66	6.0

O. Arg. S. 452.

1864.		h.	m.	s.	Mag.
Aug.	12	0	43	7.04	7.0

Weisse 742.

1864.		h.	m.	s.	Mag.
July	29	0	43	14.24	8.5
Oct.	25			14.29	8.5

Weisse 788.

1864.		h.	m.	s.	Mag.
July	29	0	45	27.80	

20 Ceti.

1864.		h.	m.	s.	Mag.
Dec.	14	0	45	51.08	

Lacaille 241, (1st *.)

1864.		h.	m.	s.	Mag.
Aug.	1	0	46	20.21	6.0

Lacaille 241, (2d *.)

1864.		h.	m.	s.	Mag.
Aug.	1	0	46	20.31	8.5

(*) + 1° 17′.

1864.		h.	m.	s.	Mag.
Oct.	25	0	46	48.26	9.2

B. A. C. 249.

1864.		h.	m.	s.	Mag.
Aug.	12	0	47	19.71	

O. Arg. S. 506.

1864.		h.	m.	s.	Mag.
Oct.	29	0	48	15.76	7.7
Nov.	5			15.74	7.5

Weisse 845.

1864.		h.	m.	s.	Mag.
Dec.	24	0	48	54.12	7.5

Lacaille 257.

1864.		h.	m.	s.	Mag.
Aug.	12	0	49	59.23	6.5

Weisse 871.

1864.		h.	m.	s.	Mag.
Oct.	25	0	50	30.11	8.0

O. Arg. S. 542.

1864.		h.	m.	s.	Mag.
Aug.	1	0	51	29.64	7.5
Dec.	24			29.62	8.5

O. Arg. S. 544.

1864.		h.	m.	s.	Mag.
Oct.	29	0	51	49.37	7.3
Nov.	5			49.51	7.0
	10			49.28	7.2
	12			49.46	7.5

α Sculptoris.

1864.		h.	m.	s.	Mag.
Dec.	12	0	51	51.40	
	14			51.52	

Lalande 1737.

1864.		h.	m.	s.	Mag.
Oct.	25	0	53	24.02	8.5

Santini 58.

1864.		h.	m.	s.	Mag.
Oct.	25	0	55	24.50	6.5

ε Piscium.

1864.		h.	m.	s.	Mag.
Jan.	14	0	55	40.82	
July	23			40.76	
	29			40.80	
Aug.	1			40.79	
	12			40.83	
Nov.	10			40.73	
	24			40.82	
Dec.	7			40.78	
	8			40.81	
	24			40.83	

O. Arg. S. 592.

1864.		h.	m.	s.	Mag.
Nov.	5	0	56	23.52	8.2
	12			23.54	7.7

26 Ceti.

1864.		h.	m.	s.	Mag.
Dec.	12	0	57	36.85	

Lacaille 301.

1864.		h.	m.	s.	Mag.
Oct.	25	0	58	50.19	7.3

O. Arg. S. 623.

1864.		h.	m.	s.	Mag.
Aug.	1	0	59	11.68	7.0
Nov.	10			11.48	8.2

Weisse 1041.

1864.		h.	m.	s.	Mag.
Dec.	24	0	59	15.91	9.0

B. A. C. 319.

1864.		h.	m.	s.	Mag.
Nov.	5	0	59	52.58	6.0
	12			52.51	

O. Arg. S. 635.

1864.		h.	m.	s.	Mag.
Oct.	29	1	0	25.11	

ε Piscium.

1864.		h.	m.	s.	Mag.
July	23	1	1	9.52	

Weisse 20.

1864.		h.	m.	s.	Mag.
Oct.	25	1	3	1.11	9.2
				1.06	

(*) + 0° 36′.

1864.		h.	m.	s.	Mag.
Dec.	12	1	4	9.74	

B. A. C. 418.

1864.		h.	m.	s.	Mag.
Nov.	10	1	16	54.39	7.0

θ Ceti.

1864.		h.	m.	s.	Mag.
Jan.	11	1	17	1.63	
	14			1.58	
Aug.	1			1.61	
Nov.	12			1.62	

O. Arg. S. 857.

1864.		h.	m.	s.	Mag.
Nov.	5	1	21	26.10	7.5
	10			26.05	7.2

O. Arg. S. 861.

1864.		h.	m.	s.	Mag.
Nov.	12	1	22	9.67	7.0

η Piscium.

1864.		h.	m.	s.	Mag.
Jan.	14	1	23	59.79	
Feb.	11			59.85	
June	27			59.77	
Oct.	29			59.82	
Nov.	5			59.81	
	16			59.87	
	24			59.84	
Dec.	7			59.79	
	8			59.77	

Lacaille 436.

1864.		h.	m.	s.	Mag.
Nov.	12	1	25	20.74	6.8

(*) — 2° 31′.

1864.		h.	m.	s.	Mag.
Oct.	25	1	26	47.91	9.0

Lacaille 459.

1864.		h.	m.	s.	Mag.
Nov.	5	1	28	25.78	
	12			25.80	7.2

Weisse 607.

1864.		h.	m.	s.	Mag.
Nov.	10	1	34	4.37	9.0

ν Piscium.

1864.		h.	m.	s.	Mag.
Oct.	25	1	34	8.92	
Nov.	5			8.93	
	12			8.99	
Dec.	7			8.95	
	8			8.94	

Weisse 628.

1864.		h.	m.	s.	Mag.
Nov.	10	1	34	56.09	8.5

ο Piscium.

1864.		h.	m.	s.	Mag.
Feb.	11	1	38	0.29	
Dec.	8			0.20	

O. Arg. S. 1049.

1864.		h.	m.	s.	Mag.
Nov.	12	1	38	44.42	9.0

O. Arg. S. 1053.

1864.		h.	m.	s.	Mag.
Nov.	12	1	39	3.61	7.5

O. Arg. S. 1057.

1864.		h.	m.	s.	Mag.
Nov.	12	1	39	15.01	7.5

O. Arg. S. 1058.

1864.		h.	m.	s.	Mag.
Nov.	12	1	39	17.18	9.0

O. Arg. S. 1066.

1864.		h.	m.	s.	Mag.
Nov.	29	1	40	31.92	7.0
Dec.	6			31.87	7.7

Santini 102.

Oct.	25	1	41	19.59	

Weisse 775.

Nov	10	1	43	44 10	9.0

O. Arg. S. 1116

Nov.	12	1	43	47.20	8.2

O. Arg. S. 1151.

Nov.	12	1	45	21.67	8.5
	29			21.58	7.5
Dec.	6			21.48	8.0

Weisse 807.

Oct.	25	1	45	31.51	8.5

ξ Piscium.

Dec.	7	1	46	18.64	

β Arietis.

Mar.	7	1	46	54.83	
	12			54.80	
	17			54.76	
	24			54.77	
May	27			54.68	
June	27			54.69	
	28			54.73	
Dec.	8			54.75	

(*) — 27° 10′.

Jan.	14	1	49	14.63	9.0

Lacaille 586, (1st *.)

Jan.	14	1	52	27.90	7.8
Nov.	29			27.93	7.7
Dec.	6			27.87	7.3

Lacaille 586, (2d *.)

Jan.	14	1	52	28.37	7.3
Nov.	29			28.35	7.3
Dec.	6			28.34	7.0

O. Arg. S. 1256.

Oct.	25	1	56	12.58	

O. Arg. S. 1266.

Nov.	29	1	56	59.24	

(*) — 18° 10′.

Jan.	14	1	57	13.92	7.0
Dec.	6			13.92	7.7

α Arietis.

1864.		h.	m.	s.	Mag.
Mar.	7	1	59	17.36	
	12			17.30	
	17			17.28	
	24			17.27	
April	28			17.19	
May	3			17.33	
	4			17.25	
	5			17.26	
	27			17.27	
June	27			17.28	
	28			17.28	
Nov.	29			17.36	

O. Arg. S. 1344.

Jan.	1	2	2	36.45	
Oct.	25			36.39	

O. Arg. S. 1354.

Nov.	29	2	3	27.62	8.0

Weisse 56.

Oct.	25	2	5	1.63	9.0

Weisse 61.

Oct.	25	2	5	19.67	

ξ^1 Ceti.

Jan.	16	2	5	35.05	

O. Arg. S. 1433.

Jan.	1	2	9	19.58	

67 Ceti.

Jan.	9	2	10	0.05	
	12			0.07	
	14			0.13	
	16			0.06	
Oct.	25			0.06	
Dec.	6			0.12	

Weisse 188.

Nov.	12	2	13	1.84	8.5

Weisse 209.

Jan.	9	2	13	53.03	9.2
	12			53.01	9.3

(*) — 18° 19′.

Dec.	6	2	15	29.07	6.0

B. A. C. 743.

Jan.	9	2	17	8.51	6.7

Lacaille 726.

Jan.	12	2	18	2.79	6.7
	14			2.71	6.7
Nov.	12			2.81	6.0

ξ^2 Ceti.

1864.		h.	m.	s.	Mag.
Jan.	9	2	20	43.10	
	12			43.17	
Nov.	12			43.18	
Dec.	6			43.20	
	7			43.13	

Weisse 363.

Nov.	12	2	22	17.92	7.5

Lacaille 750.

Jan.	14	2	22	40.62	8.5

(*) — 27° 52′.

Jan.	9	2	23	2.35	8.3
Nov.	29			2.20	8.5

B. A. C. 774.

Jan.	12	2	23	56.10	7.0

Weisse (2.) 587.

Oct.	25	2	24	26.79	8.2

O. Arg. S. 1630.

Jan.	9	2	26	18.31	7.0
	14			18.14	
Nov.	29			18.20	7.3

B. A. C. 790.

Jan.	12	2	27	42.84	6.7

Lacaille 787.

Jan.	16	2	28	12.80	
Nov.	12			12.89	6.2

O. Arg. S. 1655.

Jan.	14	2	28	30.13	

O. Arg. S. 1664.

Jan.	9	2	29	32.75	8.5

Lacaille 802.

Jan.	16	2	30	59.70	

(*) — 31° 13′.

Jan.	9	2	32	46.27	7.0
Nov.	12			46.25	7.0

O. Arg. S. 1735.

Nov.	12	2	34	3.38	

O Arg. S. 1744.

Nov.	29	2	34	40.49	7.5

Weisse 603.

1864.		h.	m.	s.	Mag.
Jan.	12	2	35	14.24	9.5
	16			14.12	9.3

γ Ceti.

Jan.	14	2	36	2.92	
Oct.	25			2.97	
Dec.	7			2.90	

Weisse 615.

Jan.	12	2	36	6.89	8.0
	16			6.92	7.8
Nov.	29			6.98	7.5

Lacaille 838.

Jan.	9	2	36	45.44	6.3

Weisse 639.

Nov.	29	2	37	29.91	7.0

B. A. C. 854.

Jan.	16	2	38	1.24	6.7

Lacaille 865.

Jan.	9	2	39	56.42	6.5

Weisse 694.

Jan.	12	2	40	44.61	9.0

Weisse 702.

Jan.	25	2	41	7.58	7.8

π Arietis.

Jan.	16	2	41	29.08	6.3
Nov.	12			29.16	

Weisse 724.

Jan.	25	2	42	32.58	7.7
Nov.	29			32.62	7.2

Weisse 728.

Jan.	12	2	42	47.27	8.0

O. Arg. S. 1838.

Jan.	9	2	43	12.73	8.0

Weisse 746.

Jan.	12	2	43	49.48	8.3
	23			49.48	8.7

B. A. C. 894.

Jan.	9	2	46	0.64	6.0
Nov.	29			0.59	5.0

1864.		h. m. s.	Mag.
Weisse 841.			
Jan.	12	2 48 31.63	7.8
	23	31.55	8.5
	25	31.53	8.1
ρ^3 Arietis.			
Jan	16	2 48 32.34	6.0
O. Arg. S. 1901.			
Nov.	29	2 48 43.62	6.5
O. Arg. S. 1910.			
Jan.	9	2 49 41.12	8.3
4 Eridani.			
Jan.	12	2 51 10.41	6.7
	25	10.26	6.8
ε Arietis.			
Jan.	16	2 51 12.76	
Nov.	12	12.85	
(*) — 1° 8′.			
Jan.	1	2 51 22.21	8.0
(*) — 27° 28′.			
Jan.	9	2 52 38.11	8.5
	23	38.16	7.8
Nov.	29	38.10	8.5
O. Arg. S. 1968.			
Jan.	9	2 54 43.12	7.7
Nov.	29	43.04	7.0
Weisse 976.			
Jan.	12	2 55 49.89	
	25	49.92	7.8
Nov.	12	49.96	7.0
α Ceti.			
Jan.	20	2 55 57.84	
	23	57.87	
June	14	57.86	
	28	57.86	
July	25	57.85	
	26	57.89	
τ^3 Eridani.			
Jan.	16	2 56 13.12	6.0
	20	13.20	4.5
(*) + 13° 44′.			
Jan.	23	2 57 41.68	8.2
	25	41.73	8.3
Nov.	12	41.87	8.0
(*) — 23° 41′.			
Nov.	29	2 58 0.49	9.0

1864.		h. m. s.	Mag.
(*) + 13° 44′.			
Jan.	23	2 58 4.24	8.2
	25	4.26	8.4
(*) — 34° 56′.			
Jan.	1	2 58 46.57	6.5
53 Arietis.			
Jan.	16	2 59 33.02	6.0
Lacaille 983.			
Nov.	29	3 1 28.68	7.5
Lacaille 988.			
Jan.	23	3 2 6.39	6.2
ζ Arietis.			
Jan.	16	3 3 37.76	
	20	37.77	
	25	37.72	
	27	37.80	
Nov.	12	37.76	
	29	37.82	
12 Eridani.			
Nov.	12	3 6 7.83	6.0
(*) — 18° 9′.			
Nov.	29	3 6 43.35	7.3
Weisse 101.			
Jan.	23	3 6 45.63	8.2
ζ Arietis.			
Feb.	13	3 6 51.58	
	14	51.62	
(*) — 18° 9′.			
Nov.	29	3 7 1.27	8.5
(*) + 12° 37′.			
Jan.	23	3 7 12.87	9.0
Lacaille 1010.			
Jan.	12	3 7 24.35	6.5
	27	24.37	7.4
(*) — 29° 29′.			
Nov.	12	3 7 30.62	7.5
Weisse 173.			
Jan.	12	3 10 39.36	7.7
	25	39.38	6.9

1864.		h. m. s.	Mag.
Lacaille 1041.			
Nov.	12	3 11 9.15	6.5
	29	8.81	6.0
Lacaille 1048.			
Jan.	6	3 11 50.69	7.5
Weisse (2,) 255.			
Jan.	23	3 12 13.50	8.3
	27	13.57	8.4
	29	13.58	8.2
B. A. C. 1046.			
Jan.	16	3 14 44.95	7.0
B. A. C. 1047.			
Jan.	27	3 14 46.57	6.7
B. A. C. 1049.			
Jan.	25	3 15 17.10	6.3
Nov.	12	17.25	6.0
	29	17.12	5.5
O. Arg. S. 2237.			
Jan.	29	3 16 53.03	7.7
Nov.	12	53.04	6.8
Weisse 295.			
Jan.	9	3 17 23.54	7.7
Lacaille 1079.			
Jan.	27	3 17 46.42	7.7
O. Arg. S. 2245.			
Feb.	5	3 17 53.51	7.0
Nov.	29	53.56	6.5
(*) + 5° 9′.			
Jan.	25	3 19 13.09	9.2
Weisse 334.			
Jan.	9	3 19 36.20	6.5
Dec.	12	36.32	
(*) — 27° 48′.			
Nov.	29	3 19 40.83	
B. A. C. 1073.			
Nov.	12	3 20 28.83	6.0
Lacaille 1102.			
Feb.	5	3 20 53.52	7.7
B. A. C. 1061.			
Jan.	12	3 21 1.66	

1864.		h. m. s.	Mag.
(*) + 5° 27′.			
Jan.	27	3 22 12.01	8.8
O. Arg. S. 2311.			
Jan.	23	3 23 28.49	
	26	28.67	
Nov.	12	28.66	
	29	28.47	
Lacaille 1127.			
Jan.	16	3 25 53.04	6.5
ε Eridani.			
Jan.	6	3 26 20.04	
	11	20.12	
	22	20.14	
	26	20.24	
	27	20.20	
Feb.	3	20.16	
	5	20.20	
Nov.	12	20.08	
	29	(19.88)	
Lacaille 1134.			
Jan.	23	3 28 12.97	6.5
Nov.	29	12.69	6.0
10 Tauri.			
Jan.	22	3 29 43.72	
Weisse 575.			
Jan.	11	3 31 25.85	8.0
B. A. C. 1119.			
Jan.	16	3 31 30.84	7.0
	23	31.04	6.7
	26	31.04	7.0
	29	30.91	7.7
Weisse 580.			
Jan.	11	3 31 38.00	7.5
Lacaille 1160.			
Jan.	9	3 32 32.36	7.0
Feb.	3	32.44	7.0
Nov.	29	32.26	6.5
Lacaille 1171.			
Jan.	23	3 34 6.74	6.5
Lacaille 1176.			
Nov.	29	3 34 38.06	7.0
(*) — 28° 23′.			
Jan.	29	3 35 1.24	
Lacaille 1186.			
Jan.	6	3 35 58.25	7.2

O. Arg. S. 2468.

1864.	h. m. s.	Mag.
Jan. 9	3 36 1.77	8.0
16	1.82	8.2

Lacaille 1196.

Nov. 29	3 37 32.61	6.5

Weisse 845.

Nov. 15	3 37 54.69	

10 Pleiadum.

Nov. 15	3 38 8.04	

O. Arg. S. 2495.

Jan. 11	3 38 12.47	8.0
26	12.47	7.0

η Tauri.

Jan. 6	3 39 9.94	
9	10.05	
12	10.06	
29	10.16	
Mar. 12	10.17	
April 26	10.07	
June 27	10.05	
July 26	10.04	
Nov. 15	10.12	

Weisse (2,) 878.

Jan. 16	3 39 38.09	7.8
23	38.21	8.0
Feb. 2	38.26	7.7

Weisse (2,) 887.

Jan. 23	3 40 2.80	7.7
26	2.91	8.3

B. A. C. 1179.

Jan. 11	3 40 45.02	7.6

O. Arg. S. 2533.

Nov. 29	3 40 49.41	4.5

27 Tauri.

Jan. 9	3 40 50.59	
29	50.61	
Nov. 15	50.57	

28 Tauri.

Jan. 9	3 40 51.69	
29	51.83	
Nov. 15	51.70	

O. Arg. S. 2556.

Jan. 16	3 42 25.94	6.2
Nov. 29	25.89	6.0

B. A. C. 1195.

Jan. 29	3 42 33.26	7.4
Nov. 15	33.19	

O. Arg. S. 2571.

1864.	h. m. s.	Mag.
Feb. 3	3 43 43.61	8.2

(*) — 32° 41′.

Nov. 29	3 44 45.82	6.6

B. A. C. 1206.

Jan. 12	3 45 10.07	
16	9.95	6.5
23	9.96	6.5
26	10.00	7.2

Weisse (2,) 1013.

Jan. 9	3 46 35.78	9.0

Weisse (2,) 1015.

Jan. 16	3 46 37.55	
23	37.67	
26	37.76	

Weisse (2,) 1019.

Jan. 9	3 46 52.54	8.7

O. Arg. S. 2623.

Jan. 29	3 47 54.29	8.1
Feb. 3	54.25	7.1
Nov. 29	54.16	7.0

B. A. C. 1222.

Jan. 11	3 48 30.40	8.4

(*) + 19° 41′.

Jan. 9	3 48 45.07	8.0

Lacaille 1284.

Jan. 16	3 49 43.18	7.0

O. Arg. S. 2666.

Jan. 16	3 49 55.54	

B. A. C. 1229.

Feb. 3	3 49 56.56	
5	56.42	

Lacaille 1291.

Nov. 15	3 50 32.13	7.0

γ Eridani.

Jan. 11	3 51 29.91	
23	29.96	
26	29.98	
Feb. 3	29.98	
5	29.87	
Dec. 29	29.92	

O. Arg. S. 2710.

Nov. 15	3 53 45.44	9.0

τ⁹ Eridani.

1864.	h. m. s.	Mag.
Jan. 11	3 53 57.52	6.1

(*) — 27° 17′.

Jan. 9	3 54 37.66	8.3

B. A. C. 1250.

Jan. 23	3 55 5.58	6.0

O. Arg. S. 2741.

Nov. 29	3 55 47.90	8.2
Dec. 22	47.90	7.5

Lacaille 1324.

Jan. 11	3 56 40.67	8.5

O. Arg. S. 2761.

Jan. 16	3 56 56.53	7.2
Feb. 3	56.64	7.4
Nov. 15	56.54	7.3

Weisse (2,) 1261.

Jan. 16	3 58 42.22	8.2
23	42.36	8.0
26	42.44	8.5
Feb. 9	42.40	

O. Arg. S. 2796.

Jan. 9	3 59 38.43	6.0
Feb. 3	38.47	6.4

B. A. C. 1273.

Jan. 11	3 59 51.27	7.6

Lacaille 1346.

Nov. 15	4 0 4.99	7.0
29	4.93	7.5

O. Arg. S. 2803.

Dec. 29	4 0 11.77	

Weisse (2,) 1.

Jan. 16	4 2 1.75	9.0
23	1.77	8.7

37 Eridani.

Feb. 3	4 3 32.82	
Nov. 15	32.83	6.0

(*) — 28° 10′.

Dec. 29	4 3 40.57	9.0

Lacaille 1370.

Jan. 11	4 4 5.93	
26	5.95	7.7

Weisse (2,) 65.

1864.	h. m. s.	Mag.
Jan. 16	4 4 35.35	8.0
23	35.31	8.0

Lacaille 1373.

Jan. 11	4 4 52.89	8.1

o¹ Eridani.

Feb. 3	4 5 1.95	
4	2.02	
9	1.97	
Nov. 15	2.00	
29	1.97	

(*) — 28° 18′.

Dec. 29	4 6 53.05	9.2

Weisse (2,) 118.

Jan. 26	4 7 3.41	8.0

Lalande 7931.

Feb. 9	4 7 4.84	8.3

Weisse (2,) 120.

Jan. 26	4 7 6.15	8.5

(*) — 29° 10′.

Jan. 23	4 8 29.92	7.7

O. Arg. S. 2922.

Jan. 16	4 8 30.04	7.0
Feb. 4	29.95	8.0

Lacaille 1389.

Nov. 15	4 8 33.55	7.0

(*) — 29° 10′.

Jan. 23	4 9 32.78	7.4

O. Arg. S. 2930.

Jan. 16	4 9 32.89	7.7
Feb. 4	32.83	8.5
Dec. 29	32.83	7.3

O. Arg. S. 2938.

Jan. 11	4 9 48.08	7.6
Feb. 9	47.96	8.0
Nov. 29	47.98	7.5
Dec. 22	48.04	7.3

(*) — 30° 25′.

Feb. 4	4 11 26.01	9.5

Weisse (2,) 248.

Jan. 12	4 12 17.31	6.0
26	17.40	7.0

(*) — 27° 3′.

1864.		h. m. s.	Mag.
Dec.	29	4 13 7.76	9.3

Weisse (2,) 270.

Feb.	9	4 13 25.39	7.5

(*) — 31° 37′.

Dec.	22	4 13 37.43	8.0

B. A. C. 1340.

Jan.	11	4 13 51.36	7.8

δ Tauri.

Feb.	14	4 14 51.92	

Weisse (2,) 348.

Jan.	12	4 16 35.00	
	16	34.91	7.0
Feb.	9	35.05	8.2

Weisse (2,) 350.

Nov.	15	4 16 52.23	

Weisse (2,) 363.

Jan.	26	4 17 20.16	8.7

Weisse (2,) 376.

Jan.	12	4 17 42.88	
	26	42.98	7.5
Feb.	9	42.85	8.0

O. Arg. S. 3044.

Dec.	22	4 17 48.17	9.0
	29	48.06	8.7

O. Arg. S. 3061.

Nov.	15	4 19 13.65	8.0

ε Tauri.

Jan.	6	4 20 26.79	
	11	26.69	
	28	26.76	
Aug.	24	26.63	

O. Arg. S. 3082.

Feb.	29	4 20 35.07	8.2
Dec.	22	35.23	8.4

Lacaille 1459.

Jan.	16	4 21 52.14	

Weisse (2,) 512.

Jan.	22	4 23.51.16	8.0
	26	51.32	7.5
Feb.	11	51.17	7.7

Lacaille 1480.

1864.		h. m. s.	Mag.
Jan.	28	4 24 9.53	7.3

Lacaille 1485.

Jan.	6	4 24 22.94	9.0
	23	22.66	
Nov.	15	22.71	
Dec.	22	22.73	7.6

(*) — 23° 40′.

Feb.	9	4 24 53.18	8.2
Dec.	29	53.21	7.8

O. Arg. S. 3154.

Jan.	23	4 25 45.89	
Nov.	15	45.90	

Lacaille 1509.

Feb.	9	4 27 22.90	

α Tauri.

Mar.	13	4 27 53.44	
April	18	53.40	
	22	53.41	
	23	53.41	
	28	53.47	
	29	53.45	
May	4	53.40	
	6	53.41	
	7	53.42	
June	6	53.37	
	14	53.48	
	16	53.47	
	27	53.38	
	28	53.47	
July	2	53.51	
	7	53.45	
	11	53.47	
	13	53.46	
	14	53.46	
Aug.	24	53.48	
Nov.	29	53.57	
Dec.	6	53.43	

(*) + 5° 53′.

Jan.	28	4 28 10.66	9.5

(*) — 26° 58′.

Dec.	22	4 28 12.69	9.0

(*) — 30° 50′.

Dec.	29	4 28 39.87	8.2

Weisse (2,) 620.

Feb.	4	4 28 50.85	
	11	50.88	7.9

(*) + 5° 32′.

Jan.	28	4 29 4.77	9.5

Lacaille 1522.

Jan.	16	4 29 26.42	6.5
	23	26.41	6.5

Weisse (2,) 637.

1864.		h. m. s.	Mag.
Jan.	12	4 29 40.58	8.7

υ⁷ Eridani.

Nov.	15	4 30 6.49	4.0

B. A. C. 1439.

Dec.	29	4 31 24.89	6.0

(*) — 27° 31′.

Jan.	23	4 32 20.94	8.0
	25	20.97	8.7
	26	21.09	8.0

Weisse (2,) 713.

Feb.	11	4 33 1.12	9.2

Weisse (2,) 719.

Jan.	28	4 33 19.27	8.5
Feb.	11	19.27	9.0

Weisse (2,) 720.

Feb.	11	4 33 20.29	8.5

B. A. C. 1450.

Jan.	6	4 34 17.61	6.9
Feb.	9	17.35	

54 Eridani.

Feb.	4	4 34 19.04	

Lacaille 1549.

Jan.	9	4 35 6.81	7.0
	23	6.77	8.0
	25	6.77	8.6
	26	6.86	8.0

Lalande 8923.

Feb.	11	4 37 6.36	7.7

O. Arg. S. 3326.

Jan.	23	4 37 23.92	7.0
	25	23.83	8.6
	26	24.01	7.7

μ Eridani.

Jan.	6	4 38 30.22	
	9	30.24	
	12	30.26	
Feb.	4	30.18	
	11	30.12	
Nov.	15	30.20	
Dec.	29	30.26	

B. A. C. 1471.

Jan.	28	4 38 37.47	7.5
Feb.	9	37.29	7.7

O. Arg. S. 3360.

1864.		h. m. s.	Mag.
Jan.	23	4 40 7.24	8.0
	26	7.29	

Lacaille 1580.

Jan.	27	4 40 17.30	7.2

B. A. C. 1482.

Jan.	28	4 40 50.41	7.0
Dec.	29	50.43	6.5

O. Arg. S. 3389.

Feb.	9	4 41 28.99	
	11	29.12	7.5
Nov.	15	29.14	7.5
Dec.	22	29.09	7.8

O. Arg. N. 5259.

Feb.	11	4 44 15.70	7.0

B. A. C. 1496.

Feb.	4	4 44 37.61	

O. Arg. S. 3437.

Jan.	16	4 44 53.00	
	23	52.93	7.0
	26	52.96	7.2
	27	52.94	7.1
Feb.	9	52.80	7.0

(*) + 22° 33′.

Jan.	28	4 45 6.19	9.2

Lacaille 1615.

Dec.	29	4 45 21.84	7.0

Weisse (2,) 1012.

Jan.	28	4 45 27.10	9.0

B. A. C. 1510.

Feb.	4	4 47 3.70	

(*) — 30° 53′.

Jan.	16	4 47 14.30	7.0
	23	14.29	7.5
	26	14.34	7.3

Weisse 1028.

Dec.	29	4 47 19.69	7.5

ι Aurigæ.

Jan.	27	4 47 52.82	

O. Arg. S. 3494.

Jan.	28	4 49 9.41	8.0
Feb.	9	9.31	
	11	9.46	7.3

O. ARG. S. 3506.

1864.		h. m. s.	Mag.
Jan.	16 . .	4 49 46.16	7.0
	23 . .	46.16	7.5
	26 . .	46.18	7.0

O. ARG. S. 3513.

Jan.	28 . .	4 50 14.06	8.2
Feb.	11 . .	14.16	7.6

O. ARG. S. 3516.

Jan.	16 . .	4 50 33.98	7.2

LACAILLE 1659, (1st *.)

Jan.	27 . .	4 50 39.41	7.8

LACAILLE 1659, (2d *.)

Jan.	27 . .	4 50 44.62	7.6

(*) — 29° 5′.

Jan.	28 . .	4 53 2.51	7.3
Feb.	9 . .	2.44	6.7
	11 . .	2.65	7.2

(*) — 26° 38′.

Jan.	16 . .	4 53 36.43	7.0
	23 . .	36.36	6.5
	26 . .	36.49	7.0

LACAILLE 1678.

Jan.	27 . .	4 54 26.45	7.0

O. ARG. S. 3576.

Jan.	28 . .	4 54 28.93	8.3

(*) + 5° 55′.

Dec.	29 . .	4 54 38.02	9.0

ι TAURI.

Feb.	16 . .	4 54 43.74	

(*) — 31° 32′.

Jan.	16 . .	4 56 1.42	7.2
Feb.	11 . .	1.41	8.4

(*) — 31° 32′.

Jan.	16 . .	4 56 12.87	8.5

11 ORIONIS.

Jan.	2 . .	4 56 34.25	
	26 . .	34.31	
Feb.	29 . .	34.32	

LACAILLE 1693.

Jan.	23 . .	4 56 47.58	6.5
	28 . .	47.56	7.5
Feb.	11 . .	47.53	7.0

LACAILLE 1704.

1864.		h. m. s.	Mag.
Nov.	15 . .	4 58 5.19	

O. ARG. S. 3630.

Jan.	28 . .	4 58 21.04	8.5
Feb.	9 . .	20.91	8.4
Dec.	22 . .	21.05	8.8

m TAURI.

Feb.	16 . .	4 59 10.63	

γ^1 CŒLI.

Jan.	27 . .	4 59 22.40	5.7

ε LEPORIS.

Jan.	2 . .	4 59 32.17	
	16 . .	32.12	
	23 . .	32.15	
Dec.	29 . .	32.19	

B. A. C. 1565.

Feb.	4 . .	4 59 33.94	

O. ARG. S. 3670.

Feb.	11 . .	5 1 0.65	9.0

O. ARG. S. 3680.

Dec.	22 . .	5 1 28.02	9.5

15 ORIONIS.

Nov.	15 . .	5 1 41.39	

O. ARG. S. 3691.

Jan.	25 . .	5 2 9.20	8.7
	26 . .	9.27	8.0
Feb.	9 . .	9.13	7.7

WEISSE (2,) 49.

Jan.	16 . .	5 3 39.10	8.7
Feb.	11 . .	39.24	8.6

O. ARG. S. 3717.

Jan.	27 . .	5 3 40.55	8.6

O. ARG. S. 3720.

Jan.	23 . .	5 3 43.98	8.5
	28 . .	43.96	9.0

(*) — 25° 34′.

Dec.	22 . .	5 4 33.62	9.3

(*) — 25° 24′.

Jan.	27 . .	5 4 55.37	9.4

LACAILLE 1738.

1864.		h. m. s.	Mag.
Feb.	12 . .	5 5 3.34	7.2

WEISSE (2,) 111.

Jan.	16 . .	5 5 17.47	7.5
Feb.	4 . .	17.57	8.0
	11 . .	17.50	7.5

B. A. C. 1615.

Jan.	23 . .	5 6 6.33	7.0
	28 . .	6.36	7.0

WEISSE 136.

Jan.	25 . .	5 6 49.58	

LACAILLE 1753.

Feb.	16 . .	5 7 15.63	6.5

(*) — 27° 19′.

Feb.	16 . .	5 7 19.64	6.8

β ORIONIS.

Jan.	25 . .	5 7 48.66	
Feb.	12 . .	48.64	
Mar.	13 . .	48.65	
April	28 . .	48.62	
	29 . .	48.76	
May	4 . .	48.65	
	5 . .	48.80	
	6 . .	48.70	
	7 . .	48.61	
	28 . .	48.70	
June	30 . .	48.70	
July	3 . .	48.61	
	7 . .	48.69	
	8 . .	48.68	
	13 . .	48.65	
	14 . .	48.68	
	18 . .	48.68	
	28 . .	48.55	

O. ARG. S. 3790.

Nov.	15 . .	5 8 37.84	

LACAILLE 1770.

Jan.	16 . .	5 9 39.76	6.3
	23 . .	39.74	6.5
	27 . .	39.91	7.5

LACAILLE 1774.

Jan.	28 . .	5 9 55.39	7.5
Feb.	9 . .	55.23	7.0

O. ARG. S. 3812.

Feb.	11 . .	5 10 10.27	9.2

κ TAURI.

Feb.	16 . .	5 10 51.96	6.0

O. ARG. S. 3830.

1864.		h. m. s.	Mag.
Jan.	25 . .	5 11 40.12	7.8
	27 . .	40.29	7.7
Feb.	11 . .	40.09	8.0
Nov.	15 . .	40.16	7.3
Dec.	29 . .	40.23	7.0

(*) — 25° 23′.

Jan.	16 . .	5 12 32.47	7.0
	23 . .	32.46	6.7

(*) — 25° 25′.

Jan.	16 . .	5 12 33.42	8.0
	23 . .	33.38	7.5

O. ARG. S. 3862.

Jan.	28 . .	5 13 17.38	8.3
Feb.	9 . .	17.26	

O. ARG. S. 3866.

Jan.	25 . .	5 13 48.88	5.8
	27 . .	49.02	7.2
Feb.	11 . .	48.86	7.2

O. ARG. S. 3884.

Jan.	16 . .	5 15 17.55	7.0
	23 . .	17.35	7.3
	28 . .	17.43	7.3
Feb.	9 . .	17.31	7.2

(*) — 20° 11′.

Nov.	15 . .	5 16 33.71	9.0
Dec.	22 . .	33.84	9.0

β TAURI.

Jan.	27 . .	5 17 26.59	
Feb.	4 . .	26.62	
	9 . .	26.63	
	12 . .	26.64	
	16 . .	26.56	
April	21 . .	26.61	
	23 . .	26.67	
	28 . .	26.66	
	29 . .	26.65	
May	4 . .	26.60	
	5 . .	26.60	
June	28 . .	26.63	
	30 . .	26.56	
July	7 . .	26.65	
	13 . .	26.63	
	15 . .	26.66	
	18 . .	26.63	
	28 . .	26.59	
Aug.	24 . .	26.70	

WEISSE (2,) 478.

Dec.	29 . .	5 17 30.45	

LACAILLE 1827.

Jan.	23 . .	5 17 57.35	7.3
	28 . .	57.49	7.0

115 TAURI.

Nov.	15 . .	5 19 0.19	

o Tauri.

1864.		h. m.	s.	Mag.
Feb.	16	5 19	13.62	5.8

B. A. C. 1708.

Jan.	16	5 20	33.59	6.5

O. Arg. N. 5930.

Feb.	11	5 22	55.16	7.5

(*) — 29° 27′.

Jan.	23	5 22	58.80	8.5
Feb.	9		58.72	8.5

(*) — 29° 27′.

Jan.	23	5 23	4.75	8.5
Feb.	9		4.76	8.3

(*) — 28° 31′.

Feb.	9	5 24	42.85	8.0
Nov.	15		42.86	8.3

δ Orionis.

Feb.	3	5 24	51.28	
	11		51.34	
	12		51.33	
April	23		51.29	
May	4		51.32	
	5		51.41	
	6		51.35	
July	7		51.30	
	13		51.36	
Aug.	24		51.33	

Weisse 603.

Feb.	3	5 24	51.26	
	12		51.35	

(*) — 28° 26′.

Nov.	15	5 25	32.17	7.7

α Leporis.

Jan.	6	5 26	33.48	
	28		33.39	
	29		33.37	
Feb.	4		33.35	

(*) + 5° 6′.

Dec.	29	5 27	5.42	8.5

O. Arg. S. 4060.

Jan.	23	5 27	19.50	6.5
Feb.	9		19.47	7.0
	16		19.49	7.0

(*) + 5° 5′.

Dec.	29	5 28	3.03	9.0

ε Orionis.

1864.		h. m.	s.	Mag.
Jan.	6	5 29	6.74	
	9		6.69	
	16		6.67	
	26		6.50	
	28		6.63	
	29		6.61	
Feb.	3		6.65	
	8		6.55	
April	23		6.58	
May	5		6.75	
	6		6.70	
July	13		6.58	
Aug.	25		6.64	

O. Arg. N. 6031.

Jan.	12	5 29	15.54	8.5
Feb.	11		15.54	8.3

ζ Tauri.

Nov.	15	5 29	16.73	

(*) + 5° 3′.

Dec.	29	5 29	18.83	4.0

(*) — 1° 20′.

Feb.	3	5 29	25.57	

O. Arg. S. 4102.

Feb.	9	5 29	49.43	8.3

O. Arg. N. 6052.

Jan.	12	5 30	22.85	9.0
Feb.	11		22.82	8.3

Weisse 776.

Jan.	3	5 31	7.54	6.7
Dec.	22		7.49	7.0

O. Arg. S. 4136.

Feb.	16	5 31	44.75	6.5

Lacaille 1916.

Jan.	27	5 32	13.31	7.8
Feb.	9		13.12	

(*) — 29° 2′.

Feb.	8	5 32	23.53	7.5
Nov.	15		23.42	7.0

α Columbæ.

Jan.	16	5 34	34.93	
	23		34.79	
	28		34.83	

(*) — 25° 33′.

Jan.	27	5 35	21.39	8.4
Feb.	9		21.15	8.0

O. Arg. S. 4213.

1864.		h. m.	s.	Mag.
Feb.	8	5 35	28.77	6.9

(*) — 26° 25′.

Nov.	15	5 35	40.41	7.5

O. Arg. N. 6159.

Jan.	12	5 35	56.43	7.3
	26		57.04	
Feb.	11		56.80	7.0

O. Arg. S. 4237.

Jan.	16	5 36	48.01	7.3
	28		47.90	8.2
Feb.	9		47.77	7.5
	16		47.88	8.0

O. Arg. S. 4263.

Jan.	16	5 38	39.58	7.6
	23		39.54	7.3
	27		39.68	8.2

(*) — 30° 41′.

Feb.	8	5 38	43.90	8.7
Nov.	15		43.77	7.5

O. Arg. S. 4294.

Jan.	16	5 39	57.57	7.3
	23		57.56	7.3

Lacaille 1977.

Jan.	28	5 39	58.27	7.5
Feb.	9		58.13	6.0

(*) + 25° 46′.

Jan.	27	5 41	22.08	9.7
Feb.	11		22.11	9.5

Lacaille 1990.

Jan.	28	5 41	36.39	7.0
Feb.	3		36.53	6.0
	8		36.45	6.5

O. Arg. N. 6250.

Jan.	26	5 42	19.70	9.0

(* 94) W. + 25° 43′.

Jan.	16	5 43	41.86	9.5
Feb.	11		41.82	9.0

O. Arg. S. 4355.

Jan.	23	5 43	58.58	7.7
	28		58.53	8.6
Feb.	9		58.39	7.5
Dec.	22		58.50	

B. A. C. 1860.

Feb.	8	5 44	2.69	6.6

O. Arg. S. 4395.

1864.		h. m.	s.	Mag.
Feb.	3	5 46	26.48	6.
	9		26.44	6.

Lacaille 2033.

Jan.	9	5 46	35.01	6.2
	16		35.08	6.5
	28		34.96	6.7
Feb.	16		34.97	6.3

α Orionis.

Jan.	12	5 47	35.56	
	23		35.68	
	27		35.63	
Feb.	8		35.57	
	10		35.68	
	27		35.54	
Mar.	2		35.64	
April	27		35.60	
	28		35.59	
May	6		35.64	
	7		35.66	
July	3		35.60	
	4		35.56	
	8		35.57	
	11		35.60	
	15		35.53	
	18		35.53	
	19		35.58	
	25		35.56	
Aug.	2		35.65	
Nov.	29		35.64	

(*) — 28° 56′.

Feb.	9	5 49	9.36	9.0

O. Arg. N. 6362.

Feb.	11	5 49	36.02	7.8

O. Arg. S. 4453.

Jan.	28	5 50	7.90	8.0
Feb.	3		8.00	7.3
	9		7.89	7.0
	16		7.90	7.

(*) — 29° 55′.

Jan.	27	5 50	14.05	7.4
Feb.	10		14.16	7.0

(*) — 29° 58′.

Jan.	27	5 50	15.77	7.7

O. Arg. N. 6390.

Jan.	12	5 51	25.24	9.0
	26		25.70	8.5

O. Arg. S. 4474.

Jan.	23	5 51	31.39	7.5
Mar.	3		31.54	8.0

O. Arg. S. 4481.

Jan.	28	5 51	46.37	8.7
Feb.	9		46.27	8.0

O. Arg. S. 4499.

1864.		h.	m.	s.	Mag.
Jan.	16	5	52	48.76	7.3
	25			48.64	7.4
Feb.	3			48.72	7.5

Lacaille 2085.

Nov.	15	5	52	50.65	7.0

Lacaille 2090.

Nov.	15	5	53	54.38	7.3

O. Arg. S. 4527.

Jan.	25	5	54	37.10	7.2
	28			37.19	7.5
Feb.	3			37.22	7.5
	11			37.27	7.3
Mar.	3			37.22	8.0

O. Arg. S. 4534.

Jan.	9	5	54	57.37	8.0
	16			57.51	7.5
	23			57.32	7.5
Feb.	8			57.44	8.0
	9			57.30	8.0

χ^3 Orionis.

Feb.	16	5	55	10.06	

(*) + 73° 33′.

Jan.	26	5	56	30.23	9.5

B. A. C. 1946.

Feb.	8	5	57	37.12	5.7

(* 116) W. + 73° 35′.

Jan.	12	5	57	45.28	9.2
	26			45.72	
Feb.	11			45.38	9.0

(*) — 28° 35′.

Jan.	9	5	59	8.37	9.0
	23			8.41	8.0
	28			8.50	9.0
Mar.	3			8.53	9.0

(*) — 28° 35′.

Jan.	9	5	59	10.98	7.0
	23			10.95	7.3
	28			11.02	8.2
Mar.	3			11.00	8.5

ν Orionis.

Jan.	16	5	59	34.73	
	25			34.64	
Feb.	3			34.82	
	9			34.76	
	10			34.65	
	16			34.75	
Nov.	15			34.73	

Lacaille 2126.

Feb.	8	5	59	59.33	6.8

O. Arg. S. 4680.

1864.		h.	m.	s.	Mag.
Jan.	26	6	2	6.12	7.7
Feb.	9			6.14	8.0

Lalande 11684.

Jan.	12	6	2	11.54	7.5

Lalande 11714.

Jan.	12	6	3	3.23	8.5

Lacaille 2163.

Jan.	9	6	4	12.08	7.0
	23			12.10	6.7

B. A. C. 1995.

Jan.	25	6	5	0.36	5.8

B. A. C. 1997.

Feb.	8	6	5	36.58	6.9

Lacaille 2177.

Jan.	25	6	5	53.21	7.3

η Geminorum.

Mar.	15	6	6	25.51	
Nov.	15			25.60	

Lacaille 2180.

Jan.	9	6	6	29.02	6.5

Weisse (2,) 169.

Jan.	12	6	7	26.93	7.5

Lacaille 2189.

Jan.	23	6	7	30.20	6.5
Feb.	9			30.16	7.0

Lacaille 2190.

Feb.	8	6	7	58.22	7.2

O. Arg. N. 6682.

Jan.	26	6	8	10.26	7.7

O. Arg. S. 4851.

Feb.	9	6	8	59.22	8.5

O. Arg. S. 4861.

Feb.	9	6	9	26.65	8.0

(*) — 28° 10′.

Feb.	11	6	9	30.49	9.0

Lacaille 2208.

Feb.	8	6	11	25.80	7.5

(*) — 28° 57′.

1864.		h.	m.	s.	Mag.
Feb.	11	6	12	46.37	9.5

O. Arg. S. 4961.

Feb.	11	6	13	43.18	7.3

μ Geminorum.

Jan.	25	6	14	29.52	
Aug.	25			29.44	

Dorpat 900, (1st *.)

Feb.	11	6	16	21.08	6.0

Dorpat 900, (2d *.)

Feb.	11	6	16	21.36	7.5

O. Arg. S. 5082.

Jan.	25	6	19	17.48	5.8

Dorpat 917, (1st *.)

Feb.	11	6	22	1.91	

Dorpat 917, (2d *.)

Feb.	11	6	22	2.20	

B. A. C. 2127.

Jan.	27	6	24	13.49	6.9

(*) — 29° 56′.

Jan.	28	6	25	13.64	9.0

O. Arg. S. 5251.

Feb.	3	6	26	30.35	7.2
	12			30.08	7.6

Lalande 12614.

Jan.	27	6	27	46.70	7.6
Feb.	3			46.57	6.7

O. Arg. S. 5289.

Jan.	28	6	28	1.13	7.0

γ Geminorum.

Jan.	9	6	29	37.46	
	12			37.45	
	26			37.39	
	27			37.41	
Feb.	3			37.41	
	4			37.46	
	8			37.33	
	11			37.44	
	12			37.36	
	18			37.48	
April	27			37 41	
May	6			37.45	
Aug.	25			37.44	
Nov.	15			37.46	
Dec.	22			37.48	

Lacaille 2355.

1864.		h.	m.	s.	Mag.
Jan.	28	6	30	40.92	7.5

Lacaille 2366.

Feb.	8	6	31	34.33	8.7
	12			34.33	7.7

O. Arg. S. 5410.

Feb.	9	6	32	26.25	8.0

O. Arg. S. 5415.

Jan.	27	6	32	33.18	7.5
Feb.	11			33.19	6.8

(*) — 27° 38′.

Jan.	28	6	33	15.76	8.5

51 Cephei.

Jan.	9	6	33	39.33	
	12			39.14	
	26			40.17	
	28			39.50	
Mar.	3			38.98	
	12			38.51	
May	22, S. P.			37.34	
June	21, S. P.			39.10	
July	2, S. P.			37.85	
	4, S. P.			38.77	
	11, S. P.			39.08	
	13, S. P.			40.42	
Aug.	3, S. P.			37.71	
	12, S. P.			39.47	
Nov.	15			39.22	

O. Arg. S. 5450.

Jan.	27	6	33	46.80	7.6
Feb.	11			46.82	6.6

Lacaille 2388.

Feb.	3	6	34	20.90	5.9
	4			20.96	6.0
	12			21.00	6.5

ϵ Geminorum.

Mar.	15	6	35	19.05	

O. Arg. S. 5519.

Feb.	9	6	36	4.25	7.5

(*) — 23° 19′.

Feb.	8	6	36	36.38	7.7

(*) — 31° 31′.

Feb.	3	6	37	2.27	7.7
	4			2.24	

O. Arg. S. 5574.

Feb.	12	6	37	38.73	7.7

1864.		h. m. s.	Mag.
α Canis Majoris.			
Jan.	22	6 38 58.69	
	25	58.56	
	27	58.80	
Feb.	4	58.67	
	11	58.63	
Mar.	15	58.69	
April	27	58.58	
May	6	58.79	
	28	58.63	
June	6	58.58	
	7	58.66	
	13	58.62	
	16	58.68	
	17	58.58	
July	8	(58.50)	
	11	58.54	
	14	58.70	
	19	58.67	
	25	58.66	
	28	58.68	
Aug.	4	58.65	
	9	58.61	
	11	58.54	
	12	58.60	
O. Arg. S. 5615.			
Feb	3	6 39 16.74	7.1
	8	16.67	7.3
O Arg. S. 5654.			
Jan.	28	6 40 28.52	8.2
O Arg. S 5665.			
Feb	12	6 40 50.13	8.2
O Arg. S. 5704.			
Feb	8	6 42 19.84	9.2
	11	19.77	8.5
	16	19.74	8.0
O. Arg. S. 5732.			
Feb.	18	6 43 24.97	7.0
(*) — 28° 34′.			
Feb.	12	6 43 49.09	7.0
O. Arg. S. 5745.			
Jan.	28	6 43 56.23	
Feb.	11	56.17	7.5
	12	56.23	6.5
(*) — 32° 22′.			
Jan.	27	6 44 18.17	
B. A. C. 2244.			
Feb.	8	6 44 30.18	7.6
κ Canis Majoris.			
Jan.	27	6 44 36.63	
Lacaille 2473.			
Feb.	3	6 44 54.79	6.9

1864.		h. m. s.	Mag.
B. A. C. 2251.			
Mar.	15	6 45 5.79	6.8
(*) — 31° 33′.			
Mar	15	6 45 8.84	8.0
(*) — 28° 32′.			
Feb	11	6 45 28.41	8.2
O. Arg. S. 5790.			
Feb.	8	6 45 34.62	7.9
(*) — 30° 15′.			
Jan.	28	6 46 46.34	
Feb.	16	46.38	7.7
O. Arg. S. 5863.			
Feb.	18	6 47 59.68	6.5
Mar.	3	59.72	7.0
Lacaille 2519.			
Jan.	27	6 49 2.75	
	28	2.81	7.7
Feb.	8	2.71	6.9
	11	2.73	7.0
Mar.	15	2.63	7.0
O. Arg. S. 5906.			
Feb.	12	6 49 45.38	7.6
	16	45.22	7.0
Lacaille 2528.			
Jan.	27	6 50 37.15	
	28	37.13	7.5
Feb.	8	37.09	7.2
	11	37.11	6.8
O. Arg. S. 5961.			
Jan.	28	6 52 6.85	7.0
Lacaille 2544.			
Feb	18	6 52 45.62	7.5
Lacaille 2549.			
Feb.	11	6 52 45.90	6.8
Mar.	3	45.91	7.2
	15	45.81	7.0
ε Canis Majoris.			
Feb.	9	6 53 7.53	
	12	7.47	
	16	7.58	
Lacaille 2553.			
Mar.	15	6 53 22.19	

1864.		h. m. s.	Mag.
O. Arg. S. 6004.			
Feb.	12	6 53 34.87	
Lacaille 2566.			
Jan.	28	6 54 48.39	6.5
Feb.	11	48.45	7.0
Mar.	3	48.45	7.0
(*) — 30° 52′.			
Jan.	28	6 54 52.75	8.0
Feb.	11	52.67	8.3
Mar.	3	52.77	8.0
Weisse (2,) 1675.			
Feb.	18	6 55 47.27	8.5
Lacaille 2579.			
Mar.	15	6 55 47.42	7.1
ζ Geminorum.			
Jan.	22	6 55 48.31	
Feb.	18	48.18	4.0
44 Geminorum.			
Dec.	22	6 56 52.53	
γ Canis Majoris.			
Jan.	27	6 57 25.44	
	28	25.43	
Mar.	3	25.46	
	12	25.38	
Lacaille 2610.			
Mar.	15	7 0 36.53	6.5
O. Arg. S. 6232.			
Mar.	12	7 1 19.60	7.2
τ Geminorum.			
Jan.	22	7 2 13.52	
(*) — 31° 11′.			
Jan.	27	7 2 38.43	8.4
Lacaille 2637.			
Jan.	27	7 2 49.51	7.7
O. Arg. N. 7623.			
Feb.	11	7 3 53.16	7.0
Lacaille 2643.			
Mar.	12	7 4 28.13	7.8
B. A. C. 2371.			
Jan.	27	7 6 40.42	6.9

1864.		h. m. s.	Mag.
O. Arg. N. 7681.			
Feb.	11	7 7 9.86	8.[illegible]
(*) — 27° 8′.			
Mar.	12	7 7 27.11	7.5
O. Arg. S. 6431.			
Mar.	12	7 7 58.00	6.3
(*) — 30° 25′.			
Jan.	27	7 9 12.37	7.4
O. Arg. S. 6489.			
Mar.	12	7 9 44.37	
B. A. C. 2399.			
Jan.	27	7 9 56.05	6.7
λ Geminorum.			
Feb.	18	7 10 2.69	
B. A. C. 2320, S. P.			
Aug.	31	7 10 8.49	6.5
O. Arg. N. 7755.			
Feb.	11	7 11 9.22	7.6
δ Geminorum.			
Jan.	22	7 11 45.57	
Mar.	15	45.56	
(*) — 29° 37′.			
Mar.	3	7 12 48.01	8.0
	12	47.95	8.3
(*) — 30° 36′.			
Jan.	28	7 12 48.24	8.3
B. A. C. 2428.			
Jan.	27	7 14 1.08	7.0
Lacaille 2741.			
Mar.	2	7 14 50.94	6.6
Lacaille 2753.			
Mar.	3	7 15 31.81	7.0
B. A. C. 2443.			
Mar.	3	7 16 50.06	7.0
(*) — 32° 18′.			
Mar.	3	7 16 58.35	8.5

(*)—31° 1′.

1864.		h. m. s.	Mag.
Feb.	11	7 17 14.87	7.8
	12	15.03	8.3
Mar.	12	14.90	8.3

WEISSE 338.

Mar.	15	7 17 23.56	9.0
	17	23.46	9.0

O. ARG. S. 6734.

Jan.	27	7 17 50.71	5.8
	28	50.75	6.0

(*)—31° 3′.

Feb.	12	7 18 10.68	7.0

O. ARG. S. 6748.

Mar.	2	7 18 20.32	6.8

η CANIS MAJORIS.

Mar.	2	7 18 33.52	2.5

(*)—30° 19′.

Jan.	27	7 19 50.98	8.5

O. ARG. S. 6810.

Mar.	3	7 20 22.91	7.5
	17	22.89	7.3

6 CANIS MINORIS.

Feb.	18	7 21 59.81	

O. ARG. S. 6858.

Feb.	11	7 22 12.99	7.0
Mar.	12	12.94	7.3

LACAILLE 2813.

Jan.	28	7 22 19.32	7.0
Mar.	3	19.33	7.0
	17	19.18	6.8

LALANDE 14620.

Feb.	18	7 23 43.99	5.5

(*)—20° 24′.

Jan.	27	7 23 45.93	7.8

O. ARG. S. 6907.

Jan.	28	7 23 46.87	8.5

O. ARG. S. 6941.

1864.		h. m. s.	Mag.
Feb.	11	7 24 50.43	8.4
Mar.	12	50.45	8.2

O. ARG. S. 6946.

Feb.	11	7 24 54.44	8.8
Mar.	12	54.45	8.4

O. ARG. S. 6948.

Mar.	3	7 25 8.10	8.0

O. ARG. S. 6949.

Mar.	3	7 25 8.32	8.3

68 GEMINORUM.

Feb.	19	7 25 36.88	
Mar.	17	36.82	

α^1 GEMINORUM.

Jan.	27	7 25 39.18	
Feb.	8	39.25	
	12	39.24	
Mar.	2	39.27	
May	6	39.13	

α^2 GEMINORUM.

Jan.	27	7 25 39.71	
Feb.	8	39.78	
	12	39.76	
Mar.	2	39.77	
May	6	39.60	
June	6	39.78	
	9	39.75	
	15	39.72	
Aug.	2	39.76	
	16	39.70	
	25	39.74	
	28	39.75	

LACAILLE 2852.

Mar.	17	7 28 8.10	7.2

LACAILLE 2859.

Mar.	17	7 28 56.34	6.5

O. ARG. S. 7063.

Jan.	28	7 29 13.96	8.0
Feb.	11	14.01	7.5

(*)—29° 40′.

Mar.	3	7 30 2.80	8.5
	12	2.85	9.0

(*)—29° 44′.

Mar.	3	7 30 13.48	8.5
	12	13.47	8.8

LACAILLE 2870.

1864.		h. m. s.	Mag.
Feb.	8	7 30 42.44	

(*)—30° 59′.

Feb.	11	7 31 7.16	8.0

O. ARG. S. 7131.

Mar.	2	7 31 23.10	7.3

(*)—29° 48′.

Mar.	12	7 31 51.32	8.3

α CANIS MINORIS.

Jan.	27	7 31 58.36	
	28	58.23	
Feb.	18	58.35	
Mar.	15	58.35	
	17	58.29	
May	6	58.39	
June	6	58.33	
	7	58.41	
	9	58.43	
	15	58.33	
	17	58.37	
	21	58.38	
	25	58.32	
	28	58.31	
Aug.	2	58.32	
	4	58.32	
	9	58.36	
	11	58.31	
	12	58.34	
	16	58.29	
	25	58.35	
	28	58.28	
	29	58.33	

B. A. C. 2526.

Jan.	28	7 32 40.61	6.0

(*)—29° 52′.

Mar.	2	7 33 19.09	9.0

O. ARG. S. 7224.

Jan.	28	7 34 32.76	7.5
Feb.	11	32.68	7.0
Mar.	2	32.85	7.4

O. ARG. S. 7239.

Feb.	8	7 35 3.00	7.5
Mar.	3	3.04	6.7
	12	3.05	7.0

O. ARG. S. 7286.

Jan.	27	7 36 34.65	
	28	34.69	7.0
Mar.	12	34.66	

O. ARG. S. 7289.

Feb.	8	7 36 38.81	9.1

β GEMINORUM.

1864.		h. m. s.	Mag.
Feb.	11	7 36 44 71	
	18	44.70	
Mar.	15	44.71	
	17	44.74	
May	6	44.60	
June	13	44.65	
	15	44.70	
	25	44.67	
	27	44.71	
Aug.	2	44.66	
	4	44.68	
	9	44.68	
	11	44.73	
	12	44.72	
	16	44.69	
	25	44.75	
	28	44.72	
	29	44.67	

LACAILLE 2941.

Mar.	3	7 38 43.21	7.0

O. ARG. S. 7376.

Jan.	27	7 39 35.34	
	28	35.34	8.0
Feb.	11	35.30	7.4

LACAILLE 2952.

Feb.	8	7 39 57.09	7.3

(*)—23° 54′.

Mar.	2	7 40 3.17	7.6

(*)—23° 46′.

Mar.	2	7 40 5.98	6.0

B. A. C. 2581.

Mar.	17	7 40 21.72	6.5

(*)—27° 16′.

Mar.	12	7 40 32.01	9.3

O. ARG. S. 7444.

Jan.	27	7 42 3.62	

O. ARG. S. 7443.

Feb.	8	7 42 4.18	9.5

O. ARG. S. 7445.

Mar.	12	7 42 4.69	9.0

O. ARG. S. 7464.

Feb.	11	7 42 48.41	8.0
Mar.	3	48.37	7.7
	17	48.30	8.8

O. ARG. S. 7465.

1864.		h. m. s.	Mag.
Jan.	28	7 42 50.06	8.0
Feb.	11	50.13	8.0
Mar.	3	50.11	7.5
	17	50.05	8.2

O. ARG. S. 7470.

Jan.	27	7 43 5.37	

O. ARG. S. 7473.

Mar.	12	7 43 11.91	7.8

φ GEMINORUM.

Jan.	22	7 44 55.42	
Feb.	11	55.46	
Mar.	2	55.46	

LACAILLE 3012.

Jan.	23	7 45 5.30	6.0

(*) — 26° 4′.

Mar.	12	7 46 32.09	9.0
	17	32.06	9.0

(*) — 26° 4′.

Feb.	8	7 47 16.25	7.6
Mar.	3	16.31	7.0
	12	16.37	8.2
	17	16.23	7.5

LACAILLE 3041.

Mar.	17	7 48 0.31	7.2

(*) — 25° 59′.

Feb.	8	7 48 9.97	7.3
Mar.	3	9.92	6.5
	12	9.93	7.7
	17	9.82	7.3

(*) — 25° 49′.

Mar.	17	7 48 21.24	7.3

O. ARG. S. 7636.

Jan.	28	7 48 43.09	6.5

(*) — 26° 4′.

Feb.	8	7 49 27.24	7.5

O. ARG. N. 8459.

Jan.	23	7 49 36.19	6.8

(*) — 30° 32′.

Feb.	11	7 49 42.13	6.5
Mar.	12	42.10	7.5

(*) — 32° 44′.

1864.		h. m. s.	Mag.
Jan.	28	7 51 47.99	8.0
Feb.	11	47.97	7.5

O. ARG. S. 7758.

Mar.	3	7 52 53.03	6.0
	12	53.00	7.2

5 CANCRI.

Jan.	22	7 53 31.51	

(*) — 28° 2′.

Feb.	11	7 53 47.84	7.2
Mar.	17	47.66	7.5

6 CANCRI.

Jan.	28	7 54 54.95	
Mar.	2	54.88	
	3	54.86	
	12	54.81	
April	7	54.89	

LACAILLE 3127.

Feb.	8	7 58 39.61	7.3

O. ARG. S. 7951.

Mar.	17	7 59 22.11	8.7

12 CANCRI.

Jan.	22	8 0 52.92	

ρ ARGUS.

Feb.	8	8 1 34.99	
	18	34.89	

O. ARG. S. 8074.

Feb.	8	8 2 42.32	8.3

O. ARG. S. 8108.

Mar.	12	8 3 28.79	6.5

ζ CANCRI, (1st *.)

Mar.	17	8 4 10.79	
April	13	10.69	

ζ CANCRI, (2d *.)

Mar.	17	8 4 11.02	
April	13	11.21	

O. ARG. S. 8165.

Mar.	12	8 4 45.38	8.0

O. ARG. S. 8169.

Mar.	12	8 5 5.16	7.0

O. ARG. S. 8199.

1864.		h. m. s.	Mag.
April	7	8 6 15.74	

(*) — 26° 59′.

Mar.	3	8 8 42.00	8.0

O. ARG. S. 8280.

Mar.	12	8 9 23.40	7.0

O. ARG. S. 8292.

April	7	8 10 6.22	

LACAILLE 3229.

Feb.	8	8 10 19.03	7.6

O. ARG. S. 8338.

April	7	8 11 45.28	

O. ARG. S. 8343.

April	7	8 11 48.36	

O. ARG. S. 8345.

April	7	8 11 57.40	

LACAILLE 3248.

Jan.	23	8 11 58.02	6.7

LACAILLE 3257.

Mar.	3	8 12 56.72	5.0
	12	56.70	5.5

(*) — 26° 39′.

Feb.	8	8 13 51.00	7.6

LACAILLE 3267.

Mar.	3	8 14 27.21	7.0
	12	27.30	7.3

LACAILLE 3279.

Feb.	8	8 16 19.46	7.7
April	7	19.44	6.5

(*) — 29° 13′.

Mar.	3	8 16 49.58	6.5
	12	49.50	6.7

LACAILLE 3290.

Jan.	23	8 17 9.08	

LACAILLE 3299.

April	7	8 18 0.66	6.4

DORPAT 1224, (1st *.)

1864.		h. m. s.	Mag
Jan.	27	8 18 19.83	7.

DORPAT 1224, (2d *.)

Jan.	27	8 18 20.14	7.

WEISSE (2,) 458.

Jan.	27	8 20 10.27	7.7

(*) — 26° 42′.

Feb.	8	8 20 24.00	7.3
Mar.	3	24.01	6.7
	12	24.01	6.5

LACAILLE 3316.

Mar.	17	8 20 25.50	

29 CANCRI.

Feb.	19	8 20 48.14	

(*) — 31° 32′.

April	7	8 21 13.39	6.

B. A. C. 2843.

Jan.	23	8 21 38.87	

LACAILLE 3331.

April	7	8 22 1.01	6.6

O. ARG. S. 8581.

Feb.	8	8 22 20.46	7.9
Mar.	12	20.51	7.0

(*) — 28° 12′.

Mar.	3	8 22 42.89	9.0

(*) — 28° 11′.

Mar.	3	8 23 16.26	7.0

LACAILLE 3341.

Mar.	3	8 23 22.17	6.8

O. ARG. S. 8620.

Mar.	12	8 24 8.59	7.5

η CANCRI.

Jan.	23	8 24 36.49	
Feb.	19	36.49	
Mar.	15	36.43	
	17	36.51	

LACAILLE 3356.

Feb.	8	8 24 51.69	5.6

(*) — 31° 15′.

1864.		h.	m.	s.	Mag.
April	7	8	25	23.87	7.5

(*) — 31° 5′.

April	7	8	26	24.13	7.0

(*) — 31° 49′.

Feb.	8	8	26	52.64	8.2

(*) — 23° 42′.

Mar.	3	8	27	17.12	7.5
	12			17.07	7.8

Dorpat 1243, (1st *.)

Jan.	27	8	28	24.24	6.4

Dorpat 1243, (2d *.)

Jan.	27	8	28	24.54	6.9

c^1 Cancri.

Jan.	23	8	29	30.14	6.5
Feb.	19			30.21	

(*) — 30° 47′.

Mar.	12	8	29	33.54	7.7
April	7			33.60	7.0

Lalande 16960.

Jan.	27	8	30	4.45	7.1

Lacaille 3419.

Mar.	12	8	30	35.10	7.4

B. A. C. 2910.

Feb.	8	8	31	5.59	7.2

O. Arg. S. 8776.

Mar.	3	8	31	14.94	7.7

O. Arg. S. 8806.

Feb.	8	8	32	20.80	7.7

ε Hydræ.

Jan.	23	8	33	21.56	
	27			21.58	
Feb.	19			21.64	
April	6			21.63	

b Mali.

April	7	8	34	37.46	4.0

(*) — 31° 40′.

Mar.	3	8	34	37.62	

O. Arg. S. 8856.

1864.		h.	m.	s.	Mag.
Mar.	12	8	34	40.50	8.0

O. Arg. S. 8887.

Mar.	3	8	36	26.89	7.5

Lacaille 3474.

Feb.	8	8	37	14.08	7.9

Lacaille 3485.

Mar.	12	8	37	29.67	6.5

(*) — 32° 40′.

April	7	8	37	57.21	8.2

a Mali.

April	7	8	37	58.10	5.0

Lacaille 3500.

Mar.	3	8	39	15.22	7.0

O. Arg. S. 8946.

Mar.	12	8	39	24.43	9.0

Weisse 1050.

Feb.	8	8	40	49.20	7.5

O. Arg. S. 8993.

Mar.	3	8	41	23.28	

Weisse 1077.

Feb.	8	8	42	11.55	8.0

Lacaille 3531.

April	7	8	42	12.95	7.0

(*) — 37° 27′.

Mar.	12	8	43	21.62	7.0

Lacaille 3546.

Jan.	23	8	43	40.94	

(*) — 27° 44 .

Mar.	3	8	43	46.76	7.3
	21			46.60	7.3

B. A. C. 3005.

Jan.	27	8	44	10.17	6.4

(*) — 41° 18′.

April	6	8	44	40.72	8.0

Lacaille 3564.

1864.		h.	m.	s.	Mag.
April	7	8	45	29.05	7.3

Lacaille 3567.

Mar.	21	8	46	0.24	7.3

(*) — 41° 14′.

April	6	8	46	3.21	7.7

(*) — 30° 45′.

Mar.	5	8	47	22.59	9.0

O. Arg. S. 9127.

Mar.	3	8	48	18.58	7.0
	5			18.42	8.5

Lacaille 3582.

Jan.	23	8	48	25.52	
Mar.	12			25.49	7.0

17 Hydræ.

Jan.	27	8	48	37.89	
Feb.	8			37.91	

Weisse 1274.

Jan.	27	8	49	35.93	8.9

(*) — 30° 0′.

April	6	8	49	47.17	7.2
	7			47.11	7.2

O. Arg. S. 9154.

Mar.	3	8	49	47.21	7.3
	5			47.22	8.5

O. Arg. S. 9155.

Mar.	3	8	49	47.72	7.3
	5			47.62	8.5

(*) — 37° 45′.

Mar.	21	8	49	55.25	6.8

a Cancri.

Jan.	23	8	50	49.67	
	24			49.64	

O. Arg. S. 9178.

Mar.	12	8	50	58.70	8.2

Lacaille 3607.

Feb.	8	8	51	32.89	7.7

Lacaille 3617.

1864.		h.	m.	s.	Mag.
Mar.	3	8	52	60.00	7.0
	12			59.90	7.7
April	7			59.99	7.0

Lacaille 3621.

Mar.	9	8	53	43.08	5.7
	21			42.97	5.7
April	6			43.17	7.0

O. Arg. S. 9243.

Feb.	8	8	54	42.45	7.1
Mar.	5			42.36	7.0

(*) — 26° 57′.

Mar.	3	8	55	4.87	6.5
	12			4.80	7.0

B. A. C. 3082.

Jan.	23	8	55	7.11	

O. Arg. S. 9258.

Jan.	27	8	55	35.80	7.8

(*) — 27° 17′.

Mar.	9	8	56	4.40	8.0

O. Arg. S. 9276.

April	6	8	56	43.39	7.2
	7			43.32	6.8
	19			43.38	7.0

B. A. C. 3096.

Jan.	27	8	57	1.02	7.6
Feb.	8			1.03	6.8
	24			0.98	6.4

O. Arg. S. 9310.

Mar.	12	8	58	30.79	7.8

O. Arg. S. 9321.

April	6	8	58	52.80	7.5

κ Cancri.

Jan.	23	9	0	9.67	
	24			9.70	
	27			9.63	
Feb.	8			9.69	
	24			9.66	
Mar.	3			9.68	
	5			9.66	
	8			9.61	
	9			9.66	
	21			9.70	
April	7			9.74	
	9			9.65	
	21			9.70	

O. Arg. S. 9344.

April	6	9	0	18.51	7.2

(*) — 31° 20′.

1864.		h.	m.	s.	Mag.
Mar.	12	9	1	27.35	8.2

(*) — 31° 30′.

Mar.	12	9	2	0.47	
April	7			0.49	

WEISSE (2,) 10.

April	6	9	2	10.07	

LACAILLE 3700.

April	21	9	3	37.19	6.2

O. ARG. S. 9418.

Mar.	3	9	3	37.10	6.5
	5			37.00	6.5
April	19			37.05	6.5

e MALI.

Jan.	23	9	4	0.50	6.0
	27			0.60	6.0

(*) — 27° 46′.

Feb.	24	9	5	48.97	7.6
Mar.	8			49.18	6.5
	9			49.34	7.4

B. A. C. 3143.

April	6	9	6	13.77	6.0
	7			13.84	5.5

LACAILLE 3718.

Mar.	3	9	6	21.22	6.4
	5			21.12	6.4

LACAILLE 3725.

Jan.	23	9	7	1.37	7.0
	27			1.54	7.5

O. ARG. S. 9481.

Mar.	12	9	7	22.09	5.5
April	19			22.10	6.0

π^2 CANCRI.

Feb.	20	9	7	29.82	

O. ARG. S. 9488.

Mar.	8	9	7	39.25	7.0
	9			39.25	7.7
April	21			39.37	7.0

O. ARG. S. 9489.

Mar.	3	9	7	43.95	7.0
	5			43.82	7.6
	21			43.93	6.8

O. ARG. S. 9496.

1864.		h.	m.	s.	Mag.
Mar.	3	9	8	4.38	7.0
	5			4.31	7.7
	21			4.51	7.0

O. ARG. S. 9509.

April	6	9	9	6.16	7.0
	7			6.20	6.7

LACAILLE 3750.

Jan.	23	9	9	45.52	6.5

(*) — 27° 41′.

Mar.	21	9	9	49.49	6.8

O. ARG. S. 9522.

Feb.	24	9	9	51.54	7.3
April	19			51.63	7.7
	21			51.68	7.3

83 CANCRI.

Jan.	24	9	11	9.77	
Feb.	20			9.71	
Mar.	3			9.81	
	12			9.70	
April	6			9.78	

(*) — 28° 33′.

Mar.	5	9	11	43.53	8.5
	8			43.57	8.3

(*) — 35° 6′.

April	19	9	12	4.37	7.0
	21			4.43	7.0

(*) — 33° 31′.

Jan.	23	9	12	55.70	7.0

LACAILLE 3780.

April	7	9	13	0.76	6.0

O. ARG. S. 9600.

Feb.	24	9	13	53.53	8.7
Mar.	12			53.48	8.4
April	19			53.49	8.0

B. A. C. 3190.

Jan.	23	9	13	59.69	6.0

(*) — 28° 39′.

Mar.	5	9	14	23.12	6.7
	9			23.02	7.3
April	21			23.09	7.3

O. ARG. S. 9615.

Mar.	5	9	14	39.18	7.5
	8			39.12	7.2

(*) — 28° 45′.

1864.		h.	m.	s.	Mag.
Mar.	9	9	14	49.18	7.7

(*) — 34° 44′.

April	7	9	15	25.82	6.7

LACAILLE 3796.

Jan.	27	9	15	27.46	7.7

O. ARG. S. 9652.

Mar.	5	9	16	47.33	7.5
	12			47.40	8.3

(*) — 34° 56′.

April	19	9	17	5.25	6.8
	21			5.27	7.0

B. A. C. 3207.

Mar.	21	9	17	8.83	4.7

O. ARG. S. 9661.

Mar.	5	9	17	13.15	8.3
	12			13.27	8.8

(*) — 28° 29′.

Mar.	8	9	17	15.27	8.3

(*) — 28° 28′.

Mar.	8	9	17	25.86	8.5

LACAILLE 3810.

April	7	9	18	3.18	6.5

(*) — 28° 28′.

Mar.	8	9	18	28.04	7.7
	9			28.01	8.6

O. ARG. S. 9692.

April	6	9	19	13.62	

(*) — 27° 47′.

Mar.	5	9	20	32.28	8.0
	12			32.32	8.0
April	6			32.33	7.1
	21			32.20	7.4

α HYDRÆ.

Jan.	23	9	20	42.47	
	27			42.46	
Feb.	20			42.43	
Mar.	21			42.38	
April	19			42.40	
June	9			42.42	
	10			42.36	
	28			42.50	
July	5			42.50	
	18			42.52	

(*) — 27° 47′.

1864.		h.	m.	s.	Mag.
April	6	9	21	20.41	7.5

B. A. C. 3235.

April	7	9	21	49.72	

LACAILLE 3848.

April	7	9	22	25.12	

ε ANTLIÆ.

Mar.	9	9	23	28.19	3.5
April	6			28.18	4.0
	19			28.17	5.0

LACAILLE 3864.

Mar.	5	9	23	49.57	7.0
	8			49.50	6.7
	12			49.61	7.0

(*) — 27° 35′.

Mar.	12	9	24	5.70	8.5

ξ LEONIS.

Jan.	24	9	24	23.79	
Feb.	20			23.80	

(*) — 35° 19′.

April	6	9	25	22.47	7.3

LACAILLE 3889.

Mar.	21	9	25	42.71	6.0
April	19			42.59	6.0

LACAILLE 3905.

Mar.	12	9	27	38.50	6.7
April	6			38.53	6.0
	19			38.52	6.7

10 LEONIS.

Feb.	20	9	29	49.07	

O. ARG. S. 9903.

Mar.	5	9	29	51.85	7.7
	8			51.90	8.0
	9			51.94	7.5
	12			51.84	8.3

LACAILLE 3923.

Jan.	26	9	30	15.33	6.7

O. ARG. S. 9931.

April	6	9	31	12.61	6.5
	7			12.60	

(*) + 25° 4′.

April	21	9	31	39.64	8.3

LACAILLE 3945.

1864.		h.	m.	s.	Mag.
Jan.	26	9	31	41.43	7.5
Mar.	12			41.42	6.8
April	19			41.33	7.2

(*) — 20° 22′.

Mar.	9	9	32	3.07	8.3
	21			3.13	8.5

o LEONIS.

Jan.	24	9	33	40.50	
	25			40.51	

(*) — 35° 24′.

Mar.	8	9	34	46.96	
April	6			47.01	8.0

(*) — 35° 24′.

Mar.	12	9	35	19.17	
April	6			19.30	
	19			19.15	

LACAILLE 3975.

April	7	9	35	25.29	6.5

LACAILLE 3976.

Jan.	26	9	35	44.85	6.8

(*) — 37° 53′.

April	21	9	35	51.66	7.5

LACAILLE 3984.

April	7	9	36	51.66	6.7

(*) — 29° 10′.

Mar.	12	9	37	11.63	8.0
April	19			11.59	8.0

ε LEONIS.

Jan.	24	9	37	53.85	
	25			53.82	
Feb.	20			53.92	
Mar.	5			53.92	
	9			53.97	
	21			53.81	
June	10			53.95	

LACAILLE 3996.

April	21	9	38	32.87	6.5

18 LEONIS.

Jan.	24	9	38	50.60	
	25			50.63	

WEISSE (2,) 832.

Jan.	26	9	39	28.63	8.7

BRISBANE 2651.

1864.		h.	m.	s.	Mag.
Mar.	12	9	40	31.10	7.0
April	6			31.11	7.2

(*) — 24° 34′.

Mar.	8	9	40	45.60	

BRISBANE 2657.

April	6	9	40	54.40	7.0

(*) — 29° 39′.

April	21	9	41	0.84	8.3

(*) — 40° 4′.

Mar.	12	9	41	7.28	6.8

LACAILLE 4021.

April	7	9	41	33.25	6.0

(*) — 37° 33′.

Mar.	21	9	41	45.84	
April	19			45.75	6.0

O. ARG. S. 10122.

Mar.	5	9	41	55.56	8.0

O. ARG. S. 10131.

Mar.	9	9	42	22.71	8.6
April	21			22.69	7.2

LACAILLE 4036.

Mar.	12	9	43	36.05	5.0
April	6			36.02	5.0

μ LEONIS.

Jan.	24	9	44	47.69	
	26			47.53	
	27			47.75	
Feb.	20			47.71	
Mar.	8			47.67	
	21			47.73	

(*) — 37° 32′.

Mar.	12	9	45	46.64	7.0
April	6			46.62	7.3
	21			46.54	7.2

LACAILLE 4052.

April	7	9	45	50.23	6.6

(* 114) W.

April	19	9	46	1.04	9.5

(*) — 37° 46′.

Mar.	21	9	47	31.57	
April	21			31.38	7.1

LACAILLE 4058.

1864.		h.	m.	s.	Mag.
Jan.	27	9	47	47.38	7.7

(*) — 27° 50′.

Mar.	12	9	48	5.06	8.3
April	6			5.12	7.5

(*) — 37° 45.

Mar.	8	9	48	6.41	

O. ARG. S. 10219.

April	6	9	48	55.20	6.5

(*) — 32° 44′.

Jan.	26	9	49	6.59	7.0

(*) — 40° 6′.

April	19	9	49	20.06	8.5

O. ARG. S. 10227.

Mar.	12	9	49	47.31	8.8

(*) — 40° 9′.

April	19	9	50	19.30	6.5

B. A. C. 3405.

Jan.	26	9	50	28.81	6.5
Mar.	8			28.72	6.0

LACAILLE 4076.

Jan.	27	9	50	34.90	7.2

LACAILLE 4089.

Jan.	26	9	52	26.93	
Mar.	9			27.07	7.2

π LEONIS.

Jan.	24	9	52	48.78	
Feb.	2			48.78	
April	7			48.77	
	21			48.74	

(*) — 30° 1′.

Mar.	12	9	53	3.14	8.0
April	6			3.04	7.2

(*) — 35° 35′.

April	19	9	54	6.84	

LACAILLE 4106.

Jan.	27	9	55	32.93	7.7

(*) — 28° 1′.

Jan.	27	9	55	33.88	7.9

LACAILLE 4115.

1864.		h.	m.	s.	Mag.
Jan.	26	9	56	33.88	6.8

(*) — 29° 34′.

Mar.	12	9	56	45.86	9.0
April	2			45.86	8.5

(*) — 29° 33′.

Mar.	12	9	57	13.86	8.4
April	21			13.86	7.5

O. ARG. S. 10337.

Mar.	9	9	57	53.09	5.0

WEISSE 1243.

April	6	9	58	7.02	8.0

O. ARG. S. 10346.

April	23	9	58	27.70	6.7
	26			27.87	7.0

O. ARG. S. 10351.

Mar	5	9	58	50.68	6.6
April	23			50.54	6.8
	26			50.67	7.0

LACAILLE 4142.

Jan.	26	9	59	23.35	6.8

14 SEXTANTIS.

Feb.	22	9	59	28.10	

WEISSE 1279.

April	6	10	0	4.90	7.5

α LEONIS.

Jan.	27	10	0	54.88	
Feb.	22			54.82	
June	10			54.83	
	25			54.83	

O. ARG. S. 10387.

April	19	10	1	23.44	8.0
	26			23.44	8.0

(*) + 12° 56′.

April	21	10	1	52.61	9.2

(*) — 32° 12′.

Jan.	26	10	2	39.42	8.5

(*) + 12° 57′.

April	21	10	2	40.70	9.0

(*) + 13° 10′.

1864.		h.	m.	s.	Mag.
April	23	10	3	7.52	9.5

Lacaille 4165.

Jan.	26	10	3	20.21	7.4

Lacaille 4185.

Jan.	26	10	5	34.74	6.5

Lacaille 4183.

Jan.	27	10	5	39.89	7.4

Weisse 75.

April	21	10	5	54.61	9.0
	23			54.55	9.0

Lacaille 4186.

April	19	10	5	56.03	6.5
	26			56.13	6.5

O. Arg. S. 10471.

Mar.	8	10	7	36.14	6.0

Weisse 115.

Mar.	5	10	7	41.27	9.2
April	21			41.28	

Weisse 116.

April	23	10	7	41.60	7.3

B. A. C. 3497.

Jan.	26	10	7	48.63	6.5

B. A. C. 3498.

Jan.	26	10	7	58.47	7.0

(*) — 38° 39′.

April	19	10	8	12.10	7.0
	26			12.13	7.0

(*) — 38° 36′.

April	26	10	9	37.33	8.3

Lacaille 4218.

Jan.	27	10	9	41.56	7.7
Mar.	8			41.37	7.0
	9			41.52	7.0

Lacaille 4227.

April	7	10	10	37.71	7.0

γ¹ Leonis.

1864.		h.	m.	s.	Mag.
Jan.	25	10	12	15.02	
	26			14.99	
	27			14.97	
Mar.	9			14.92	
April	19			15.00	
	23			14.98	
	26			14.96	
June	10			14.96	

γ² Leonis.

April	19	10	12	15.30	
	23			15.24	

Weisse 209.

Mar.	12	10	12	59.40	7.2
April	21			59.41	7.5

Lacaille 4250.

April	7	10	13	55.97	7.0

Lacaille 4253.

Mar.	8	10	14	1.74	

Weisse 240.

Mar.	12	10	14	42.54	7.2
April	21			42.44	7.3

43 Leonis.

Jan.	25	10	15	40.85	
	26			40.72	

(*) — 35° 22′.

April	19	10	15	48.01	7.5
	26			47.96	7.5

(*) — 11° 22′.

April	23	10	15	58.83	7.3

Weisse 276.

April	21	10	16	54.31	6.7

Rumker 3171.

Mar.	8	10	17	17.18	9.0
	12			17.24	8.8

(*) — 11° 18′.

April	23	10	17	43.59	7.5

Lacaille 4287.

April	7	10	18	47.35	6.7

Weisse 316.

Mar.	12	10	19	1.07	7.5

45 Leonis.

1864.		h.	m.	s.	Mag.
Jan.	26	10	20	15.29	6.0
	27			15.19	

O. Arg. S. 10634.

April	6	10	20	44.95	
	21			44.91	4.5

Weisse 375.

Mar.	12	10	21	47.36	7.0

Weisse 377.

Mar.	8	10	21	55.76	8.7
April	19			55.70	9.0

(*) — 35° 30′.

April	26	10	21	58.78	7.0
	28			58.82	6.7

Lacaille 4307.

April	7	10	22	54.25	6.5

30 Sextantis.

Mar.	20	10	23	7.98	
	21			8.02	

Weisse 412.

April	19	10	23	58.25	8.0

O. Arg. S. 10684.

April	21	10	24	11.81	8.5
	26			11.87	7.7

Lacaille 4324.

Jan.	26	10	25	17.72	6.7

Weisse 439.

Mar.	8	10	25	26.21	9.0
April	19			26.12	9.0

ρ Leonis.

Jan.	27	10	25	26.19	
Mar.	20			26.19	
	21			26.19	
April	6			26.27	
	28			26.24	

(*) — 35° 25′.

April	7	10	27	10.69	7.0
	21			10.64	8.0

Lacaille 4340.

Jan.	26	10	27	17.64	

Lacaille 4349.

Mar.	5	10	28	20.29	7.0

(*) — 35° 40′.

1864.		h.	m.	s.	Mag.
April	19	10	29	12.94	5.6
	26			12.92	8.4

Lacaille 4360.

Jan.	26	10	29	28.70	6.5

(*) — 35° 39′.

April	19	10	29	52.88	8.1
	21			52.93	8.0
	26			52.84	7.5

Lacaille 4363.

Mar.	8	10	30	2.81	6.6
	12			2.92	6.9
April	6			2.82	6.2
	23			2.81	6.5
	28			2.86	7.3

Lacaille 4365.

Mar.	5	10	30	10.67	6.7
April	7			10.62	6.9

Lacaille 4382.

Jan.	26	10	32	31.07	7.0
	27			31.16	7.7

Lacaille 4384.

Mar.	12	10	32	34.86	7.0
April	6			34.91	7.5
	19			34.76	7.9

Lacaille 4387.

Mar.	5	10	32	55.79	6.6
	7			55.88	6.9
	21			55.93	
April	21			55.68	6.0
	26			55.71	5.3

Lacaille 4389.

Mar.	8	10	33	26.12	7.0

O. Arg. N. 11041.

April	28	10	33	4.41	8.3

Lacaille 4399.

April	7	10	34	28.22	5.5

Weisse 618.

April	23	10	34	54.48	6.5

Lacaille 4407.

Mar.	5	10	35	6.68	7.0
April	7			6.70	6.0

Lacaille 4406.

Jan.	26	10	35	13.71	7.0

[illegible]

1854		h. m. s.	Mag.
Apr.	[illegible]	[illegible]	[illegible]

[illegible]

Apr. [illegible] . . [illegible]

Lalande [illegible]

Mar. [illegible] . . [illegible]

[illegible]

Apr. [illegible] . . [illegible]

O. Arg. [illegible]

Mar.	[illegible]	[illegible]	[illegible]
Apr.	19	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]

[illegible]

Mar.	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	

Lalande [illegible]

Apr. 7 . . [illegible]

Weisse [illegible]

Apr. [illegible] . . [illegible]

[illegible]

Jan. [illegible] . . [illegible]

[illegible]

April 7 . . [illegible]

[illegible]

Apr.	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]

O. Arg. [illegible]

Mar.	5	[illegible]	[illegible]
April	6	[illegible]	[illegible]
	19	[illegible]	[illegible]

O. Arg. [illegible]

Mar.	5	[illegible]	[illegible]
April	6	[illegible]	[illegible]
	19	[illegible]	[illegible]

[illegible] Leonis

Jan.	26	[illegible]
	[illegible]	[illegible]
Feb.	22	[illegible]
Mar.	7	[illegible]
	[illegible]	[illegible]
	12	[illegible]
	17	[illegible]
April	7	[illegible]
	23	[illegible]

Arg. [illegible]

1854		h. m. s.	Mag.
April	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]

[illegible]

April [illegible] . . [illegible]

[illegible]

Mar. [illegible] . . [illegible]

[illegible]

April [illegible] . . [illegible]

Lalande [illegible]

Mar. [illegible] . . [illegible]

[illegible]

Jan.	[illegible]	[illegible]	[illegible]
April	[illegible]	[illegible]	[illegible]

[illegible]

Jan.	[illegible]	[illegible]	
April	[illegible]	[illegible]	[illegible]

[illegible]

April [illegible] . . [illegible]

O. Arg. [illegible]

Mar.	[illegible]	[illegible]	[illegible]
April	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]

O. Arg. [illegible]

Mar. 7 . . [illegible]

Lalande [illegible]

April 7 . . [illegible]

[illegible]

April [illegible] . . [illegible]

Lalande [illegible]

Mar. [illegible] . . [illegible]

Lalande [illegible]

Jan.	[illegible]	[illegible]	[illegible]
Mar.	7	[illegible]	[illegible]

[illegible]

Mar.	[illegible]	[illegible]	[illegible]
April	[illegible]	[illegible]	[illegible]

[illegible]

April [illegible] . . [illegible]

Arg. [illegible]

1854		h. m. s.	Mag.
Mar.	[illegible]	[illegible]	[illegible]

Lalande [illegible]

Jan. [illegible] . . [illegible]

Lalande [illegible]

Mar. [illegible] . . [illegible]

[illegible]

Mar.	[illegible]	[illegible]	[illegible]
April	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]

[illegible] Arg. [illegible]

April	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]

[illegible]

April [illegible] . . [illegible]

[illegible] Arg. [illegible]

April	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]

Arg. [illegible]

Mar.	[illegible]	[illegible]	[illegible]
April	[illegible]	[illegible]	[illegible]

[illegible]

Mar. [illegible] . . [illegible]

[illegible]

Mar.	[illegible]	[illegible]	[illegible]
April	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]

Lalande [illegible]

April	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]

[illegible] Leonis

Jan.	[illegible]	[illegible]
	[illegible]	[illegible]

[illegible]

Mar. [illegible] . . [illegible]

Arg. [illegible]

April	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]

Lalande [illegible]

Mar.	[illegible]	[illegible]	[illegible]
April	[illegible]	[illegible]	[illegible]

Lalande [illegible]

1854		h. m. s.	Mag.
Apr.	[illegible]	[illegible]	[illegible]

[illegible] Leonis

Jan.	[illegible]	[illegible]
	[illegible]	[illegible]
Feb.	[illegible]	[illegible]
Mar.	[illegible]	[illegible]
	[illegible]	[illegible]
	[illegible]	[illegible]
	[illegible]	[illegible]
April	[illegible]	[illegible]
	[illegible]	[illegible]
	[illegible]	[illegible]
Mar.	[illegible]	[illegible]

[illegible]

Mar. [illegible] . . [illegible]

Weisse [illegible]

Mar.	[illegible]	[illegible]	[illegible]
April	[illegible]	[illegible]	[illegible]

Weisse [illegible]

Mar. [illegible] . . [illegible]

[illegible] Leonis

April [illegible] . . [illegible]

Lalande [illegible]

Mar.	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	

[illegible] Arg. [illegible]

April	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]
Mar.	[illegible]	[illegible]	

Lalande [illegible]

Mar.	[illegible]	[illegible]	[illegible]
April	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]

Lalande [illegible]

Mar. [illegible] . . [illegible]

[illegible]

Mar. [illegible] . . [illegible]

Lalande [illegible]

Jan. [illegible] . . [illegible]

Lalande [illegible]

April [illegible] . . [illegible]

[illegible] Arg. [illegible]

April [illegible] . . [illegible]

1864.		h.	m.	s.	Mag.
O. Arg. S. 11188.					
Mar.	5	11	2	38.32	9.0
	12			38.48	8.8
April	19			38.36	8.0
O. Arg. N. 11518.					
April	28	11	3	23.27	7.0
O. Arg. S. 11208.					
Mar.	5	11	3	41.72	7.0
	12			41.73	7.5
April	6			41.81	6.5
	19			41.72	6.7
	29			41.77	5.6
(*) — 25° 23′.					
April	19	11	4	27.33	9.0
O. Arg. S. 11216.					
April	29	11	4	27.67	7.0
(* 124) W.					
April	23	11	5	8.01	9.0
Lacaille 4638.					
Jan.	26	11	5	8.36	6.7
Mar.	5			8.25	7.3
	12			8.37	6.8
April	6			8.26	6.0
	7			8.23	
Lacaille 4642.					
Mar.	8	11	5	30.18	6.5
April	21			30.21	6.2
p^b Leonis.					
Feb.	22	11	6	35.51	
Mar.	24			35.50	
δ Leonis.					
Jan.	27	11	6	39.54	
Mar.	7			39.51	
	23			39.44	
April	26			39.46	
O. Arg. N. 11584.					
April	28	11	7	21.33	7.5
O. Arg. S. 11250.					
Mar.	5	11	7	45.95	7.0
	12			46.01	
April	6			45.97	6.8
	19			45.92	7.0
Lacaille 4667.					
April	7	11	8	29.96	6.6

1864.		h.	m.	s.	Mag.
Lacaille 4668.					
Mar.	8	11	8	35.71	7.6
O. Arg. S. 11267.					
April	26	11	9	5.44	7.2
May	5			5.48	8.0
φ Leonis.					
Jan.	26	11	9	32.66	
	27			32.69	
Mar.	21			32.60	
April	17			32.76	
Lacaille 4680.					
Mar.	8	11	10	12.43	6.8
O. Arg. S. 11291.					
April	29	11	11	23.41	6.7
Lacaille 4693.					
Mar.	7	11	11	42.75	5.7
	23			42.71	
δ Crateris.					
Jan.	26	11	12	20.72	
Mar.	5			20.57	
	12			20.64	
April	6			20.60	
	7			20.57	
	26			20.61	
O. Arg. S. 11304.					
April	29	11	12	35.38	6.5
O. Arg. N. 11674.					
April	23	11	12	35.64	
	28			35.97	
Weisse 211.					
April	11	11	13	9.46	
O. Arg. S. 11318.					
April	29	11	13	29.83	6.4
May	5			29.66	6.7
O. Arg. S. 11320.					
April	21	11	13	33.68	7.1
σ Leonis.					
Jan.	27	11	13	55.04	
Mar.	24			54.97	
Lacaille 4713.					
Mar.	12	11	14	23.57	7.0
April	19			23.47	6.0

1864.		h.	m.	s.	Mag.
Weisse 253.					
April	26	11	14	29.55	7.2
O. Arg. S. 11344.					
Mar.	5	11	15	39.55	8.3
	7			39.70	7.9
	8			39.52	8.3
	23			39.56	
Weisse 261.					
April	23	11	16	1.27	9.2
Lacaille 4725.					
Mar.	12	11	16	12.87	7.2
April	19			12.74	6.6
	21			12.69	7.0
O. Arg. S. 11353.					
Mar.	5	11	16	22.69	7.0
	7			22.83	6.6
	8			22.68	6.5
	23			22.56	
ι Leonis.					
Jan.	27	11	16	37.52	
Weisse 284.					
April	26	11	17	33.52	7.5
May	5			33.28	7.8
O. Arg. S. 11374.					
April	21	11	18	53.49	8.2
83 Leonis, (1st *.)					
Mar.	24	11	19	39.90	
April	23			39.93	6.8
	28			39.84	6.5
83 Leonis, (2d *.)					
Mar.	24	11	19	40.92	
April	23			40.90	8.3
	28			40.80	7.5
Lacaille 4746.					
April	7	11	19	55.33	7.2
O. Arg. S. 11394.					
Mar.	3	11	20	23.63	8.3
	28			23.73	
τ Leonis.					
Mar.	7	11	20	44.23	
	8			44.23	
April	18			44.21	
	19			44.22	
Weisse 349.					
April	18	11	20	45.15	
	19			45.13	7.3

1864.		h.	m.	s.	Mag
Weisse 358.					
April	29	11	20	53.60	6.[illegible]
(*) — 34° 47′.					
Mar.	12	11	21	6.54	7.2
April	6			6.54	7.0
Weisse 365.					
Mar.	7	11	21	14.43	6.4
O. Arg. S. 11410.					
Mar.	3	11	21	25.63	6.7
	5			25.66	7.0
	23			25.70	
B. A. C. 3909.					
April	29	11	22	14.64	5.[illegible]
(* 123) W.					
April	23	11	22	38.91	9.0
Lacaille 4758.					
April	21	11	22	41.81	6.5
May	5			41.84	5.7
Lacaille 4760.					
April	7	11	22	53.34	6.0
O. Arg. S. 11438.					
Mar.	5	11	23	23.54	6.5
	12			23.60	6.0
Weisse 403.					
April	28	11	23	43.32	7.7
O. Arg. S. 11444.					
Mar.	3	11	24	3.56	7.2
	5			3.52	8.0
	12			3.56	7.5
(*) — 29° 30′.					
May	5	11	24	6.89	9.0
O. Arg. S. 11446.					
April	6	11	24	7.62	7.7
	19			7.59	7.3
B. A. C. 3927.					
April	7	11	25	59.52	4.[illegible]
Lacaille 4777.					
Mar.	3	11	26	1.12	6.0
April	6			1.18	6.[illegible]
	21			1.12	6.[illegible]
May	5			1.18	7.0

1864.		h.	m.	s.	Mag.
WEISSE 450.					
Mar.	23	11	26	30.57	
B. A. C. 3929.					
April	7	11	26	48.31	5.5
O. ARG. N. 11873.					
April	23	11	26	59.77	8.5
	28		27	0.16	8.7
(*) — 40° 33′.					
Mar.	12	11	27	26.22	7.0
April	19			26.07	6.5
(*) — 35° 26′.					
Mar.	3	11	27	28.30	7.0
April	6			28.33	7.2
O. ARG. S. 11491.					
Mar.	7	11	28	5.63	
April	21			5.45	6.7
(*) — 5° 45′.					
Mar.	23	11	28	6.49	
LACAILLE 4792.					
April	29	11	28	20.59	6.5
υ LEONIS.					
Feb.	24	11	29	46.74	
Mar.	3			46.90	
	24			46.88	
(*) — 34° 21′.					
Mar.	12	11	30	21.73	8.0
April	19			21.72	7.0
LACAILLE 4814.					
April	7	11	30	39.20	6.7
(*) — 34° 49′.					
April	29	11	31	10.54	7.2
O. ARG. S. 11531.					
April	6	11	31	16.99	8.6
	21			17.04	8.5
(*) — 24° 52′.					
April	6	11	31	18.59	9.0
	21			18.49	9.0
LACAILLE 4824.					
April	7	11	31	46.42	7.5

1864.		h.	m.	s.	Mag.
(*) — 26° 5′.					
Mar.	7	11	32	18.33	7.4
May	5			18.11	7.5
LACAILLE 4830.					
April	7	11	32	27.75	7.3
O. ARG. S. 11557.					
Mar.	12	11	33	2.50	7.5
April	19			2.49	7.5
CARRINGTON 1741.					
April	28	11	33	13.34	8.7
(*) — 27° 43′.					
Mar.	3	11	33	16.84	6.7
	8			16.82	7.0
	23			16.88	
γ CEPHEI, S. P.					
Mar.	5	11	33	37.96	
B. A. C. 3969.					
April	21	11	34	44.87	5.5
B. A. C. 3974.					
Mar.	5	11	36	29.27	6.0
	8			29.16	
O. ARG. N. 12020.					
April	28	11	36	39.68	7.0
May	5			38.95	7.0
WEISSE 646.					
Mar.	12	11	37	29.64	7.9
(*) — 36° 51′.					
April	19	11	38	30.41	7.0
	21			30.47	7.5
ν VIRGINIS.					
Feb.	24	11	38	39.75	
WEISSE 674.					
Mar.	12	11	39	1.07	8.5
LACAILLE 4881.					
Mar.	7	11	39	19.00	7.8
LACAILLE 4882.					
April	7	11	39	20.70	7.0
(*) — 35° 9′.					
April	29	11	40	6.02	5.3
May	4			5.98	5.6

1864.		h.	m.	s.	Mag.
LACAILLE 4890.					
Mar.	23	11	40	16.01	6.4
April	18			16.10	
O. ARG. S. 11656.					
April	26	11	40	16.31	7.0
May	5			16.45	7.0
(*) — 7° 22′.					
Mar.	8	11	40	54.81	9.5
(*) — 35° 15′.					
April	29	11	41	37.82	6.6
May	4			37.82	7.2
β LEONIS.					
Mar.	3	11	41	55.00	
	5			54.99	
	12			55.07	
	21			55.02	
April	7			55.02	
	21			54.99	
	23			54.99	
	28			54.98	
June	13			55.05	
July	29			55.07	
Aug.	12			55.05	
	13			54.97	
β VIRGINIS.					
Jan.	27	11	43	24.39	
Feb.	24			24.34	
April	18			24.37	
	19			24.38	
(*) — 36° 57′.					
April	26	11	43	33.38	7.5
WEISSE 758.					
Mar.	9	11	44	1.97	7.3
(*) — 36° 10′.					
May	5	11	44	7.63	7.5
(*) — 36° 59′.					
April	21	11	45	12.67	7.0
	26			12.57	8.0
(*) — 37° 34′.					
April	28	11	45	44.10	7.5
(*) — 35° 12′.					
Mar.	8	11	47	5.34	7.5
April	21			5.19	6.3
May	4			5.46	7.4
	5			5.23	7.0
B. A. C. 4025.					
April	19	11	47	40.67	7.5

1864.		h.	m.	s.	Mag.
B. A. C. 4034.					
April	26	11	48	48.84	5.8
RADCLIFFE 2768.					
April	28	11	49	39.35	8.6
May	5			39.36	8.5
RADCLIFFE 2769.					
April	28	11	49	52.17	7.5
May	4			52.30	6.2
	5			52.28	7.5
RADCLIFFE 2771.					
April	28	11	50	1.99	7.0
May	4			1.74	5.6
	5			1.72	7.5
O. ARG. S. 11796.					
Mar.	8	11	50	59.35	6.7
April	25			59.18	
May	16			59.42	5.8
(*) — 26° 55′.					
April	18	11	51	4.91	
WEISSE 895.					
April	23	11	52	24.18	8 7
O. ARG. S. 11831.					
April	19	11	53	51.57	8.3
	21			51.54	7.2
May	16			51.68	7.2
LACAILLE 4976.					
May	5	11	54	15.89	6.7
(*) — 35° 8′.					
April	28	11	55	38.10	7.8
	29			38.33	7.2
May	4			38.34	7.7
O. ARG. S. 11848.					
May	16	11	55	12.35	8.8
O. ARG. S. 11876.					
April	19	11	57	23.11	7.0
B. A. C. 4070.					
Mar.	3	11	57	36.95	
	8			39.33	
April	26			38.12	
May	17			37.45	
WEISSE 980.					
April	18	11	57	45.57	

o VIRGINIS.

1864.		h.	m.	s.	Mag.
Jan.	27	11	58	4.54	
Mar.	24			4.64	
April	18			4.60	
	29			4.54	
May	4			4.62	
	5			4.60	
	16			4.67	
	17			4.68	

LACAILLE 5013.

Feb.	25	11	58	45.38	

O. ARG. N. 12337.

April	23	11	59	30.95	8.6
	28			31.34	8.7

O. ARG. S. 11908.

April	19	11	59	50.88	
May	16			50.99	

DORPAT 1604, (1st *.)

May	5	12	2	14.34	7.7

DORPAT 1604, (2d *.)

May	5	12	2	15.04	9.4

DORPAT 1604, (3d *.)

May	5	12	2	17.63	8.8

10 VIRGINIS.

Jan.	27	12	2	30.96	
April	18			30.87	
	19			30.90	5.5

ε CORVI.

Feb.	25	12	2	55.75	
Mar.	8			55.83	
April	26			55.75	
	29			55.76	

4 DRACONIS.

Mar.	9	12	5	35.16	

O. ARG. S. 11995.

April	26	12	5	39.03	7.8
	28			38.97	8.0

LACAILLE 5063.

May	5	12	5	57.87	6.0

(*) — 25° 48′.

Feb.	25	12	8	44.95	8.2
Mar.	8			45.05	8.3
April	26			44.97	8.3
	29			44.94	7.2
May	5			44.91	7.8

(*) — 25° 49′.

1864.		h.	m.	s.	Mag.
April	26	12	8	48.15	9.0
	29			48.29	8.2

(*) — 28° 43′.

April	19	12	9	29.62	8.7

(*) — 25° 50′.

Feb.	25	12	9	36.06	7.2
Mar.	8			36.17	7.5
April	29			36.19	6.9
May	5			36.11	6.8

O. ARG. S. 12057.

April	28	12	10	40.42	7.0
May	4			40.50	6.7
	16			40.43	6.9

(*) — 25° 48′.

April	29	12	11	19.24	8.4

13 VIRGINIS.

Mar.	23	12	11	29.71	
April	18			29.78	

O. ARG. S. 12082.

Feb.	25	12	12	38.94	6.8
April	26			38.95	6.7

(*) — 27° 45′.

May	5	12	12	42.71	7.3

B. A. C. 4150.

May	17	12	12	43.66	6.6

η VIRGINIS.

Mar.	8	12	12	44.55	
	9			44.70	
	23			44.59	
April	18			44.76	
	19			44.65	
	28			44.67	
May	4			44.62	
	7			44.66	
	16			44.67	

O. ARG. S. 12101.

April	26	12	13	59.05	7.2

O. ARG. S. 12116.

Feb.	25	12	15	9 97	6.5
April	26			9.77	6.5

(*) — 32° 48′.

May	16	12	15	17.19	9.3

DORPAT 1636, (1st *.)

April	28	12	15	24.34	9.5
May	7			24.43	9.0

DORPAT 1636, (2d *.)

1864.		h.	m.	s.	Mag.
April	28	12	15	24.84	7.0
May	7			24.89	7.4

LACAILLE 5126.

May	4	12	15	52.72	7.0

LALANDE 23198.

Feb.	25	12	16	45.91	7.2
April	21			45.87	7.5

O. ARG. S. 12134.

April	26	12	16	49.70	8.3

LACAILLE 5143.

Feb.	25	12	17	57.33	6.0
Mar.	23			57.21	
April	21			57.23	6.5

O. ARG. S. 12161.

April	28	12	19	18.98	7.8
May	4			18.97	7.7

O. ARG. S. 12170.

April	23	12	20	6.22	7.0
	26			6.15	6.7
May	16			6.31	7.0

(*) — 35° 11′.

April	6	12	21	13.62	8.6
	21			13.68	8.3
	28			13.70	8.0
	29			13.87	7.7

(*) — 35° 5′.

April	6	12	22	27.80	8.3
	21			27.81	8.3
	28			27.78	8.0
	29			27.94	7.5

(*) — 32° 54′.

April	21	12	24	10.13	8.1
	23			10.16	8.7
	26			10.07	8.0

LACAILLE 5191.

May	4	12	24	40.01	6.4
	5			39.74	6.0

LACAILLE 5193.

April	28	12	25	10.29	7.7
May	4			10.43	7.4

(*) — 31° 46′.

April	28	12	26	3.92	8.5

(*) — 32° 30′.

April	21	12	26	17.28	8.0

O. ARG. S. 12232.

1864.		h.	m.	s.	Mag.
Mar.	23	12	25	26.54	

q VIRGINIS.

Feb.	24	12	26	33.40	
	25			33.31	
May	16			33.38	

(*) — 31° 47′.

April	28	12	26	39.65	7.5
May	4			39.81	[illegible]

β CORVI.

Feb.	24	12	27	2.40	
	25			2.28	
April	6			2.38	
	26			2.32	
	29			2.33	
May	5			2.39	

κ DRACONIS.

Mar.	24	12	27	29.28	
May	7			29.36	

O. ARG. S. 12269.

May	16	12	28	42.72	9.5

LACAILLE 5220.

Jan.	1	12	29	26.27	7.5
April	6			26.24	
	21			26.31	7.3
	23			26.26	7.3
	26			26.21	[illegible]

O. ARG. S. 12286.

April	29	12	29	50.83	7.5
May	16			50.87	8.3

WEISSE (2,) 636.

May	7	12	30	11.36	8.0

χ VIRGINIS.

Feb.	24	12	32	1.33	
	25			1.29	
Mar.	24			1.29	
April	19			1.24	
May	16			1.37	
	17			1.36	

LACAILLE 5234.

April	6	12	32	43.26	7.0
	29			43.51	7.5

O. ARG. S. 12332.

April	26	12	33	18.59	8.0
May	4			18.80	8.5

O. ARG. S. 12342.

Jan.	1	12	34	3.59	7.5

γ^1 Virginis.

1864.		h.	m.	s.	Mag.
June	13	12	34	33.85	
	14			33.74	
	15			33.81	

γ^2 Virginis.

June	13	12	34	33.93	
	14			33.86	
	15			33.90	

Lacaille 5252.

April	29	12	34	58.55	7.4

(*) — 35° 16′.

April	6	12	35	40.14	8.0

(*) — 40° 35′.

Feb.	25	12	35	53.04	7.0

21 Cassiopeæ, S. P.

May	7	12	36	27.92	

O. Arg. S. 12377.

April	21	12	36	33.19	5.5
	23			33.19	4.5

Lacaille 5271.

Jan.	28	12	37	48.25	6.0

O. Arg. S. 12389.

May	16	12	37	48.46	6.5

O. Arg. S. 12390.

May	5	12	37	51.26	7.5

(*) — 37° 5′.

April	6	12	38	2.71	7.5
	19			2.75	7.0

Lacaille 5278.

Jan.	1	12	39	13.26	5.0
Feb.	25			13.24	5.7
April	23			13.26	6.0
May	31			13.20	6.6

Lacaille 5284.

Jan.	28	12	40	45.54	6.0
April	6			45.45	6.5
	21			45.48	6.7
May	16			45.65	7.5

O. Arg. S. 12444.

April	29	12	41	37.20	8.8

B. A. C. 4301.

May	7	12	41	53.30	6.5

O. Arg. S. 12460.

1864.		h.	m.	s.	Mag.
Feb.	25	12	42	41.30	8.0
April	23			41.14	8.2
	29			41.33	7.3

Weisse 722.

April	28	12	42	45.67	9.0

Lacaille 5295.

April	19	12	42	52.33	7.0
May	5			52.35	7.0

(*) — 37° 11′.

May	16	12	42	57.07	8.2

Weisse 728.

April	28	12	43	9.81	7.5

(*) — 25° 7′.

April	29	12	44	9.57	8.2

Lacaille 5301.

Jan.	28	12	44	11.68	6.5

Lacaille 5302.

Jan.	28	12	44	17.21	

Weisse 764.

April	6	12	45	17.59	9.0

O. Arg. S. 12495.

April	28	12	45	44.30	7.5

ψ Virginis.

Feb.	25	12	47	4.55	
April	19			4.52	

O. Arg. S. 12520.

April	28	12	47	58.24	6.6

O. Arg. S. 12523.

April	26	12	48	11.81	8.3

O. Arg. S. 12529.

April	6	12	49	2.54	8.0
	26			2.63	8.2

O. Arg. S. 12533.

April	6	12	49	13.37	6.5
	26			13.47	7.0

B. A. C. 4345.

Jan.	28	12	49	27.06	
April	21			27.14	
	23			27.03	
May	31			27.10	

α Canum Venaticorum.

1864.		h.	m.	s.	Mag.
Jan.	28	12	49	28.49	
April	21			28.46	
	23			28.46	
	29			28.52	
May	21			28.42	
	31			28.45	

(*) — 32° 24′.

April	19	12	49	50.48	7.2

O. Arg. S. 12573.

Feb.	25	12	52	43.17	7.3
April	19			43.11	6.7
May	16			43.22	7.2

Weisse 909.

April	26	12	53	23.53	6.5

O. Arg. S. 12588.

May	4	12	54	10.68	7.5
	5			10.44	7.0
	31			10.49	7.3

Weisse 926.

May	7	12	54	21.75	

Lacaille 5371.

Jan.	1	12	55	19.79	

B. A. C. 4369.

Jan.	1	12	56	3.24	

O. Arg. S. 12615.

Feb.	25	12	56	19.07	8.0
April	19			19.08	7.0
	29			19.24	

(*) — 16° 54′.

April	28	12	56	37.08	
May	5			37.00	7.5

(*) — 37° 4′.

May	16	12	56	45.89	9.5

O. Arg. S. 12620.

May	31	12	56	47.88	

O. Arg. S. 12629.

April	28	12	57	36.86	
May	7			36.87	

(*) — 34° 22′.

April	21	12	58	2.35	7.3
	23			2.22	
	26			2.30	7.3

O. Arg. S. 12655.

1864.		h.	m.	s.	Mag.
April	19	12	59	58.63	7.0
May	5			58.65	7.2
	16			58.85	7.2
	31			58.63	7.2

50 Virginis.

Mar.	24	13	2	25.80	
May	17			25.90	

Weisse 17.

May	16	13	2	42.18	

θ Virginis.

Feb.	25	13	2	42.25	
April	6			42.24	
	19			42.23	
	26			42.26	
	28			42.30	
	29			42.29	
May	4			42.34	
	5			42.19	
	6			42.20	
	7			42.25	
	16			42.31	
	31			42.27	
June	10			42.18	
Dec.	22			42.19	

O. Arg. S. 12802.

April	28	13	12	48.61	7.0

O. Arg. S. 12825.

April	28	13	14	48.57	7.0
May	5			48.43	6.8

Weisse 235.

May	16	13	14	56.55	7.5

Lacaille 5514.

May	31	13	15	17.54	6.7

Lalande 24816.

April	28	13	16	35.48	7.5
May	5			35.36	7.0

α Virginis.

Feb.	25	13	17	49.34	
Mar.	12			49.33	
	23			49.44	
	24			49.29	
April	19			49.35	
	23			49.38	
May	6			49.32	
	17			49.30	
June	3			49.31	
	10			49.30	
	16			49.31	
	17			49.25	
July	30			49.32	
Aug.	9			49.29	
	12			49.29	
	30			49.31	
Sept.	1			49.33	
Dec.	22			49.29	

1864.	h.	m.	s.	Mag.
(*) — 34° 55′.				
April 6	13	19	4.50	8.5
May 5			4.50	8.0
31			4.51	9.0
WEISSE 304.				
April 28	13	19	29.10	8.0
May 7			29.11	
WEISSE 312.				
April 26	13	19	52.25	8.3
(*) — 34° 57′.				
May 5	13	19	58.97	7.8
(*) — 32° 46′.				
May 31	13	20	41.06	8.9
B. A. C. 4496.				
Mar. 26	13	21	5.92	
(*) — 34° 51′.				
Feb. 25	13	21	25.01	6.7
May 5			24.97	6.5
71 VIRGINIS.				
Mar. 24	13	22	16.85	
April 6			16.93	6.0
26			16.87	6.0
O. ARG. S. 12908.				
April 23	13	22	49.61	
(*) — 34° 29′.				
May 31	13	23	46.39	8.7
O. ARG. S. 12920.				
Feb. 25	13	23	55.96	7.0
April 28			56.02	7.0
May 5			55.83	6.7
WEISSE 392.				
April 26	13	24	24.27	9.0
WEISSE 413.				
May 7	13	25	18.09	
h VIRGINIS.				
April 21	13	25	35.81	

1864.	h.	m.	s.	Mag.
ζ VIRGINIS.				
Jan. 28	13	27	33.74	
Feb. 25			33.75	
Mar. 24			33.73	
April 6			33.70	
23			33.71	
26			33.71	
28			33.77	
May 7			33.74	
20			33.77	
21			33.70	
(*) — 31° 40′.				
May 5	13	27	50.28	7.0
(*) — 26° 33′.				
April 21	13	30	56.21	7.5
May 5			56.28	7.3
(*) + 77° 0′.				
May 7	13	32	4.04	8.3
(*) — 26° 27′.				
May 5	13	32	4.28	8.0
(*) — 37° 41′.				
April 21	13	34	49.28	9.0
May 5			49.27	9.0
O. ARG. S. 13085.				
May 30	13	36	3.70	
LACAILLE 5663.				
April 21	13	36	58.47	6.6
May 5			58.48	6.3
i CENTAURI.				
May 19	13	37	44.37	5.5
(*) — 34° 28′.				
May 31	13	38	5.09	
O. ARG. S. 13149.				
May 5	13	40	25.25	7.5
(*) — 29° 57′.				
May 4	13	40	25.59	
WEISSE (2,) 854.				
May 7	13	40	57.50	
O. ARG. S. 13156.				
May 4	13	41	1.71	
5			1.38	6.7
20			1.68	
30			1.45	

1864.	h.	m.	s.	Mag.
g CENTAURI.				
May 19	13	41	20.72	6.0
O. ARG. S. 13167.				
April 21	13	41	59.82	7.5
May 31			59.75	7.3
O. ARG. S. 13169.				
April 21	13	42	6.22	8.5
May 31			6.19	9.0
WEISSE (2,) 910.				
May 7	13	43	7.49	
k CENTAURI.				
May 19	13	43	45.32	6.0
(*) — 38° 23′.				
May 31	13	45	9.08	8.5
WEISSE (2,) 978.				
May 7	13	45	37.36	9.0
LACAILLE 5729.				
May 4	13	45	44.94	
5			44.62	5.5
O. ARG. S. 13215.				
May 30	13	45	48.98	
WEISSE (2,) 994.				
May 7	13	46	17.59	8.0
O. ARG. S. 13243.				
April 21	13	47	52.87	6.3
May 31			52.86	6.7
η BOOTIS.				
Feb. 26	13	48	1.08	
May 4			1.06	
5			1.14	
19			1.11	
20			1.08	
30			1.06	
June 7			1.12	
Dec. 22			1.20	
WEISSE (2,) 1077.				
May 7	13	49	28.43	
LACAILLE 5773.				
April 21	13	50	5.38	6.5
May 19			5.44	7.0
June 13			5.46	6.6
RADCLIFFE 3117.				
May 5	13	50	33.85	6.5

1864.	h.	m.	s.	Mag.
(*) — 36° 48′.				
May 31	13	52	2.85	8.3
BRISBANE 4727.				
May 30	13	52	48.04	
(*) — 38° 35′.				
April 21	13	52	52.85	7.2
(*) + 76° 54′.				
May 7	13	53	50.74	9.0
τ VIRGINIS.				
Feb. 26	13	54	31.39	
(*) — 37° 7′.				
April 21	13	55	40.97	7.5
May 31			40.93	7.8
O. ARG. S. 13357.				
May 19	13	57	4.58	5.0
30			4.57	
LACAILLE 5812.				
April 21	13	57	34.22	
June 3			34.30	8.5
94 VIRGINIS.				
Feb. 26	13	58	53.21	
(*) — 26° 32′.				
May 31	13	59	56.28	7.5
(*) — 32° 24′.				
April 21	14	0	9.73	
May 19			9.77	
30			9.78	
(*) — 26° 33′.				
June 3	14	1	3.76	7.2
(*) — 26° 33′.				
June 3	14	1	7.49	7.6
(*) — 26° 44′.				
May 31	14	2	16.71	6.5
LACAILLE 5839.				
May 19	14	2	40.88	7.0
(*) — 26° 4′.				
May 31	14	2	58.39	7.2

50 Hydræ.

1864.		h.	m.	s.	Mag.
May	30	14	4	45.19	
	31			45.15	5.5
June	3			45.19	5.5

κ Virginis.

Feb.	26	14	5	25.98	
May	7			25.89	
	19			25.82	

Lacaille 5872.

May	30	14	8	1.79	

α Bootis.

Feb.	26	14	9	16.66	
June	3			16.61	

Lacaille 5883.

May	31	14	10	7.18	6.0

Weisse 174.

May	7	14	10	38.72	

λ Virginis.

Feb.	26	14	11	32.41	
April	21			32.33	
May	19			32.35	

O. Arg. S. 13541.

May	30	14	12	3.37	
	31			3.25	6.8

Weisse 209.

May	7	14	12	21.58	

O. Arg. S. 13561.

May	30	14	13	55.92	
	31			55.86	6.2

(*) — 27° 30′.

May	31	14	15	44.31	7.3

2 Libræ.

April	21	14	15	54.81	

Lacaille 5923.

May	19	14	15	55.46	
	30			55.40	

(*) — 27° 29′.

Feb.	26	14	17	5.87	
May	31			5.76	

Lacaille 5932.

May	30	14	17	11.51	

O. Arg. S. 13626.

1864.		h.	m.	s.	Mag.
April	21	14	19	12.55	8.0

O. Arg. S. 13629.

Feb.	26	14	19	21.50	7.4
April	21			21.40	7.3

O. Arg. S. 13647.

Feb.	26	14	20	26.76	6.7
April	21			26.68	7.0
May	31			26.59	7.0

O. Arg. S. 13663.

May	17	14	21	27.71	7.0
	30			27.59	

O. Arg. S. 13679.

May	31	14	22	38.73	7.0

(*) — 25° 32′.

May	30	14	22	49.27	

O. Arg. S. 13697.

April	21	14	23	57.80	7.0

O. Arg. S. 13702.

May	3	14	24	5.79	7.0

ρ Bootis.

Feb.	26	14	25	47.73	
	27			47.73	
April	21			47.76	
May	17			47.72	
	19			47.81	
	30			47.78	
	31			47.74	
June	15			47.80	

Lalande 26560.

May	30	14	26	15.48	

O. Arg. S. 13757.

May	19	14	28	59.61	
	31			59.42	7.5

O. Arg. S. 13799.

April	21	14	31	48.58	6.7
May	19			48.57	

O. Arg. S. 13813.

May	30	14	32	17.51	
	31			17.43	6.3

O. Arg. S. 13814.

May	30	14	32	22.47	
	31			22.36	8.8

O. Arg. S. 13847.

1864.		h.	m.	s.	Mag.
April	21	14	34	13.74	7.0

μ Virginis.

Feb.	27	14	35	41.18	
April	22			41.17	

(*) — 25° 15′.

April	21	14	36	55.25	
May	30			55.33	

54 Hydræ.

May	31	14	37	54.14	5.0

B. A. C. 4865.

May	31	14	37	54.63	7.5

5 Libræ.

Feb.	27	14	38	14.86	

ε Bootis.

May	17	14	38	52.31	
Nov.	30			52.36	
Dec.	29			52.39	

56 Hydræ.

April	21	14	39	34.80	5.0
May	19			34.96	
	30			34.83	

(*) — 36° 49′.

May	31	14	41	22.34	8.0

8 Libræ.

May	20	14	42	56.94	
	30			56.86	
June	15			56.82	

α Libræ.

Feb.	27	14	43	8.35	
April	21			8.28	
May	19			8.30	
	20			8.34	
	30			8.28	
June	15			8.27	
July	11			8.32	
Aug.	10			8.33	
Dec.	29			8.24	

B. A. C. 4912.

May	16	14	46	5.49	5.0
	19			5.43	
	31			5.32	

O. Arg. S. 14080.

May	16	14	48	44.92	
June	25			44.96	

(*) — 26° 15′.

1864.		h.	m.	s.	Mag.
May	31	14	48	45.52	
June	3			45.63	

ξ^2 Libræ.

Feb.	27	14	49	10.55	

β Ursæ Minoris.

May	19	14	51	9.75	
June	25			9.12	
July	13			9.13	

Lacaille 6198.

May	31	14	54	25.62	5.5

20 Libræ.

Feb.	27	14	66	52.98	

O. Arg. S. 14230.

May	19	14	57	33.84	
	30			33.91	

(*) — 21° 53′.

June	3	14	57	58.55	7.5
	25			58.44	6.7

ψ Bootis.

Feb.	27	14	58	26.80	
May	16			26.76	
	20			26.77	
	31			26.76	
June	13			26.84	
	22			26.75	

O. Arg. S. 14279.

May	30	15	0	17.31	
June	3			17.31	

O. Arg. S. 14397.

May	30	15	1	2.94	

O. Arg. S. 14211.

June	13	15	2	2.34	
July	14			2.21	6.0

Lacaille 6258.

May	31	15	3	5.00	6.5

ι Libræ.

Feb.	27	15	4	14.83	
May	19			14.74	
	20			14.87	
July	13			14.84	
	14			14.81	

O. Arg. S. 14349.

May	16	15	4	28.88	
June	3			28.85	7.7

O. Arg. S. 14366.

1864.		h.	m.	s.	Mag.
May	30	15	5	36.15	
June	13			36.15	

(*) — 25° 25′.

May	30	15	5	39.40	
June	13			39.30	

1 Lupi.

May	31	15	6	3.06	5.7

O. Arg. S. 14395.

May	19	15	7	17.63	

2 Lupi.

May	31	15	9	19.07	5.0

β Libræ.

Feb.	27	15	9	28.67	
May	7			28.60	
	21			28.68	
	30			28.60	
June	3			28.52	
	16			28.65	
	17			28.58	
	20			28.68	
	22			28.57	
	25			28.59	
	28			28.62	
July	13			28.70	
	14			28.62	

O. Arg. S. 14436.

May	16	15	10	17.03	

O. Arg. S. 14459.

May	16	15	11	45.86	

Lalande 27907.

June	28	15	12	18.55	9.0

O. Arg. S. 14466.

June	14	15	12	23.09	

(*) — 37° 42′.

June	25	15	12	29.31	7.0

Lacaille 6342.

July	14	15	13	30.34	

ϕ^2 Lupi.

May	7	15	14	13.16	

O. Arg. S. 14513.

May	16	15	16	1.92	
June	25			1.75	8.5

O. Arg. S. 14531.

1864.		h.	m.	s.	Mag.
June	16	15	16	50.04	7.6
July	13			50.07	7.6

(* 117) W.

May	5	15	16	56.29	8.3
June	28			56.10	8.3

Lacaille 6368.

May	31	25	16	57.10	7.6

O. Arg. S. 14533.

June	13	15	17	14.41	
	14			14.34	

O. Arg. S. 14548.

June	14	15	18	22.84	

O. Arg. S. 14554.

May	30	15	18	35.32	
June	3			35.40	8.0
	25			35.28	7.5
July	13			35.40	8.0
	14			35.33	7.2

μ Bootis.

June	7	15	19	12.14	
	13			12.14	
	15			12.18	

Weisse (2,) 414.

June	15	15	19	13.48	

Lacaille 6388.

May	31	15	20	15.59	6.8

ζ^1 Libræ.

June	16	15	20	22.02	

O. Arg. N. 15370.

May	7	15	21	20.55	

Lacaille 6405.

May	19	15	22	29.71	

(*) — 23° 11′.

June	16	15	22	53.79	7.3
	28			53.58	8.0

Lacaille 6409.

June	14	15	23	5.68	
July	13			5.90	7.0
	14			5.85	6.0

B. A. C. 5140, S. P.

Jan.	12	15	24	0.57	

O. Arg. S. 14624.

1864.		h.	m.	s.	Mag.
April	23	15	24	1.29	7.0
May	5			1.38	6.0

Weisse 444.

May	30	15	24	43.17	
June	28			43.12	7.8

O. Arg. S. 14636.

May	16	15	24	47.03	
June	17			47.12	

Lacaille 6415.

June	16	15	24	48.30	7.5

Lacaille 6421.

May	19	15	25	24.03	

Lacaille 6439.

June	28	15	27	24.73	6.0
July	13			24.93	6.0

γ Libræ.

April	23	15	27	41.98	4.3
June	16			41.95	
	17			41.93	
July	14			41.92	4.5

O. Arg. S. 14687.

June	7	15	28	32.04	6.0

α Coronæ Borealis.

May	6	15	28	45.65	
	16			45.71	
	17			45.72	
	19			45.71	
	30			45.74	
June	3			45.77	
Aug.	10			45.68	
Nov.	30			45.60	

O. Arg. S. 14701.

May	31	15	29	4.82	6.0
July	13			5.06	6.7

(*) — 21° 39′.

June	25	15	29	20.66	7.0
	28			20.67	6.3

O. Arg. S. 14710.

April	23	15	29	45.47	6.2
May	5			45.40	6.5

Radcliffe 3415.

May	7	15	30	58.15	

Radcliffe 3416.

1864.		h.	m.	s.	Mag.
May	7	15	31	3.83	

Lacaille 6473.

July	13	15	31	34.87	6.5
	14			34.83	6.5

Lacaille 6471.

May	5	15	31	50.28	
	16			50.45	
	31			50.12	7.0
June	14			50.32	
	25			50.35	6.0

κ Libræ.

Mar.	27	15	33	53.08	
April	23			53.03	5.0
July	14			53.10	5.0

Lacaille 6491.

June	7	15	33	54.76	7.0
July	13			54.82	7.0

(*) + 80° 14′.

June	28	15	34	20.25	9.0

α Serpentis.

Mar.	27	15	37	22.52	
April	23			22.51	
May	5			22.55	
	31			22.47	
June	25			22.50	

O. Arg. S. 14839.

May	6	15	37	29.07	
June	17			29.17	
July	13			29.11	

B. A. C. 5198.

May	19	15	37	41.70	

O. Arg. S. 14871.

June	7	15	38	58.93	
	20			59.02	

(*) — 20° 48′.

June	28	15	39	21.59	8.
July	13			21.67	7.

O. Arg. S. 14878.

June	20	15	39	31.05	

B. A. C. 5220.

May	19	15	40	9.09	
June	25			8.93	6.5

O. Arg. S. 14904.

May	5	15	40	43.38	9.0

O. Arg. S. 16302.

1864.		h.	m.	s.	Mag.
June	20	16	57	7.03	
	25			6.78	7.0

Dorpat 2119, (1st *.)

July	2	16	58	34.48	
	13			34.46	

Dorpat 2119, (2d *.)

July	2	16	58	34.48	
	13			34.53	

B. A. C. 5768.

July	4	16	59	51.05	5.7
	15			51.19	6.0
Aug.	12			51.19	

ε Ursæ Minoris.

June	25	17	0	26.98	
Aug.	10			26.79	

O. Arg. S. 16420.

June	28	17	2	55.27	7.5
July	2			55.28	7.5
	13			55.22	7.5

η Ophiuchi.

Mar.	1	17	3	21.04	
June	18			21.26	
July	15			21.12	

Weisse 46.

May	31	17	4	18.48	7.0
June	16			18.55	
	20			18.72	
July	14			18.44	7.0

B. A. C. 5796.

Aug.	12	17	4	39.29	6.0

O. Arg. N. 16862.

July	25	17	4	51.18	
Aug.	10			51.26	6.7

(*) — 33° 35′.

July	15	17	5	47.59	7.2

O. Arg. S. 16505.

July	13	17	6	31.87	8.2

O. Arg. S. 16511.

Aug.	12	17	6	33.22	6.5

B. A. C. 5807.

July	15	17	6	38.67	6.5

A Ophiuchi, (1st *.)

1864.		h.	m.	s.	Mag.
Mar.	1	17	6	44.15	
July	2			44.34	
	13			44.19	

A Ophiuchi, (2d *)

Mar.	1	17	6	44.33	
July	2			44.54	
	13			44.52	

a Herculis, (1st *.)

Jan.	10	17	8	15.89	
	11			15.93	
	15			15.85	
May	31			15.89	
June	25			15.92	
July	13			15.84	
	14			15.85	
	25			15.87	

a Herculis, (2d *.)

June	25	17	8	16.24	
July	14			16.12	
	25			16.08	
Oct.	25			15.93	
Nov.	10			15.85	

O. Arg. S. 16563, (1st *.)

June	28	17	8	57.54	

O. Arg. S. 16563, (2d *.)

June	28	17	8	57.72	8.0
July	2			57.72	7.5
	15			57.68	

B. A. C. 5833.

June	16	17	10	14.78	
	20			14.93	

Weisse 186.

June	16	17	11	33.34	

Dorpat 2147.

July	4	17	12	27.76	9.5
	13			27.79	9.5

Lalande 31469.

July	25	17	12	36.91	6.0

θ Ophiuchi.

May	22	17	13	24.86	
July	15			24.91	
Aug.	12			24.88	4.0

(*) — 31° 24′.

July	6	17	14	28.77	7.5
Aug.	10			28.71	7.5

Lalande 31556.

June	20	17	14	45.08	
July	2			44.93	7.5

Weisse 254.

1864.		h.	m.	s.	Mag.
July	25	17	15	11.76	8.5

B. A. C. 5868.

May	22	17	16	32.88	7.0
June	16			32.97	
	29			32.96	
July	15			32.99	6.0
Aug.	12			32.96	6.0

b Ophiuchi.

May	24	17	17	49.36	
June	16			49.40	
	29			49.31	
July	6			49.33	
	13			49.31	
	15			49.35	
	16			49.40	
Aug.	12			49.41	

B. A. C. 5892.

July	2	17	19	38.38	7.5
	4			38.24	7.6

O. Arg. S. 16816.

July	6	17	19	55.25	8.0
	15			55.30	8.0
	25			55.19	8.7

O. Arg. S. 16844.

June	20	17	21	28.27	
July	4			28.02	7.6
	13			28.15	7.3

c^2 Ophiuchi.

July	16	17	22	52.67	
Aug.	12			52.58	

(*) — 31° 43′.

July	6	17	22	56.43	8.3
	15			56.55	8.7

Lacaille 7330.

May	22	17	23	8.40	6.0

B. A. C. 5914.

July	25	17	23	55.07	7.0

B. A. C. 5924.

May	22	17	25	33.53	

(*) — 38° 33′.

July	15	17	26	2.97	8.0

B. A. C. 5932.

July	15	17	26	54.44	
Aug.	12			54.51	5.0

a Ophiuchi.

1864.		h.	m.	s.	Mag.
Jan.	8	17	28	26.18	
	10			26.17	
	11			26.20	
	15			26.18	
	22			26.13	
	25			26.16	
July	4			26.16	
	16			26.11	
Oct.	25			26.24	
	29			26.27	
Nov.	10			26.17	
Dec.	29			26.23	

O. Arg. S. 16990.

June	28	17	28	53.88	8.2
July	2			53.64	7.8
	25			53.70	7.7

(*) — 27° 57′.

June	29	17	29	22.91	6.0
July	6			22.76	7.0
Aug.	10			22.90	8.7

B. A. C. 5960.

July	15	17	30	53.71	6.5
Aug.	12			53.78	7.6

(*) — 32° 5′.

Aug.	12	17	31	3.61	7.0

(*) — 32° 7′.

Aug.	12	17	31	36.22	7.0

B. A. C. 5964.

July	15	17	31	51.13	6.5

Rumker 5943.

July	6	17	33	0.06	

o Serpentis.

July	16	17	33	32.85	

O. Arg. S. 17094.

April	36	17	33	50.36	7.0
June	28			50.62	7.9
July	2			50.55	7.3
	4			50.60	8.0

B. A. C. 5977.

Aug.	10	17	33	55.52	6.0

B. A. C. 5980.

July	15	17	34	25.55	6.5

B. A. C. 5983.

July	25	17	34	31.51	7.0

O. ARG. S. 17130.

1864.		h.	m.	s.	Mag.
June	29	17	35	45.56	6.6
July	2			45.57	

LACAILLE 7420.

1864.		h.	m.	s.	Mag.
April	12	17	36	48.03	7.0

DORPAT 2204, (1st *.)

1864.		h.	m.	s.	Mag.
April	26	17	38	26.88	7.6
July	4			26.71	7.8
	6			26.76	7.5

DORPAT 2204, (2d *.)

1864.		h.	m.	s.	Mag.
April	26	17	38	27.11	7.5
July	4			27.09	
	6			27.18	7.7

B. A. C. 6011.

1864.		h.	m.	s.	Mag.
July	15	17	39	7.15	7.0

O. ARG. S. 17209.

1864.		h.	m.	s.	Mag.
June	28	17	39	10.13	7.5
July	25			10.16	6.8

LACAILLE 7448.

1864.		h.	m.	s.	Mag.
Aug.	12	17	40	6.28	6.7

μ HERCULIS.

1864.		h.	m.	s.	Mag.
June	29	17	40	58.83	
July	2			58.84	
	6			58.86	
	8			58.73	
	16			58.79	
	29			58.77	

B. A. C. 6023.

1864.		h.	m.	s.	Mag.
June	28	17	41	23.76	7.0
July	4			23.76	6.0
Aug.	10			23.82	6.5

(*) — 35° 17′.

1864.		h.	m.	s.	Mag.
Aug.	12	17	41	43.44	6.8

(*) — 28° 34′.

1864.		h.	m.	s.	Mag.
July	25	17	42	11.21	8.5
Aug.	3			11.41	8.3

(*) — 28° 35′.

1864.		h.	m.	s.	Mag.
June	28	17	43	0.58	8.0
July	25			0.54	8.0

B. A. C. 6032.

1864.		h.	m.	s.	Mag.
May	22	17	43	13.26	7.0

(*) — 34° 58′.

1864.		h.	m.	s.	Mag.
Aug.	12	17	43	34.15	6.2

B. A. C. 6038.

1864.		h.	m.	s.	Mag.
Aug.	12	17	44	2.21	7.0

B. A. C. 6043.

1864.		h.	m.	s.	Mag.
Aug.	10	17	44	34.80	6.0

(*) — 36° 20′.

1864.		h.	m.	s.	Mag.
Aug.	3	17	44	50.81	8.0

WEISSE 905.

1864.		h.	m.	s.	Mag.
April	26	17	45	22.97	7.0
July	2			22.98	7.8
	4			22.90	7.8
	6			22.92	7.8
	29			22.98	8.0

B. A. C. 6051.

1864.		h.	m.	s.	Mag.
Aug.	3	17	45	39.59	5.0

O. ARG. S. 17339.

1864.		h.	m.	s.	Mag.
June	28	17	46	18.59	8.8
	29			18.65	7.8
July	8			18.54	8.5

B. A. C. 6057.

1864.		h.	m.	s.	Mag.
July	25	17	47	6.66	6.7
Aug.	12			6.67	6.0

O. ARG. S. 17376.

1864.		h.	m.	s.	Mag.
April	26	17	47	58.52	7.8
May	22			58.38	7.5
June	28			58.46	8.0
July	6			58.44	8.0
	8			58.49	8.0

B. A. C. 6072.

1864.		h.	m.	s.	Mag.
June	28	17	49	46.24	6.5
	29			46.14	5.7
July	8			46.21	6.5

DORPAT 2244.

1864.		h.	m.	s.	Mag.
Aug.	12	17	49	54.07	7.0

B. A. C. 6074, (1st *.)

1864.		h.	m.	s.	Mag.
July	25	17	50	5.76	5.0

B. A. C. 6074, (2d *.)

1864.		h.	m.	s.	Mag.
July	25	17	50	6.09	7.8

DORPAT 2245, (1st *.)

1864.		h.	m.	s.	Mag.
April	26	17	50	15.94	
July	2			16.00	7.8
	4			15.93	
	6			15.95	
	29			15.88	

DORPAT 2245, (2d *)

1864.		h.	m.	s.	Mag.
April	26	17	50	16.14	
July	2			16.14	7.8
	4			16.07	
	6			16.12	
	29			16.14	

O. ARG. S. 17443.

1864.		h.	m.	s.	Mag.
Aug.	3	17	51	9.37	7.0
	31			9.42	8.0

4 SAGITTARII.

1864.		h.	m.	s.	Mag.
May	22	17	51	14.59	
July	16			14.82	

O. ARG. N. 17680.

1864.		h.	m.	s.	Mag.
Aug.	10	17	51	59.37	

B. A. C. 6083.

1864.		h.	m.	s.	Mag.
Aug.	1	17	52	20.19	6.8

(*) — 0° 3′.

1864.		h.	m.	s.	Mag.
July	2	17	52	21.45	8.5
	6			21.40	8.3

O. ARG. S. 17506, (1st *.)

1864.		h.	m.	s.	Mag.
June	28	17	53	53.25	9.5
July	4			53.21	9.0
	8			53.23	8.6

O. ARG. S. 17506, (2d *.)

1864.		h.	m.	s.	Mag.
June	28	17	53	53.72	8.5
July	4			53.56	8.5
	8			53.63	8.8
	25			53.61	8.3

(*) — 22° 50′.

1864.		h.	m.	s.	Mag.
May	22	17	55	26.79	7.0
July	8			26.81	7.8
	25			26.63	7.8

95 HERCULIS, (1st *.)

1864.		h.	m.	s.	Mag.
July	6	17	55	33.65	
	15			33.60	5.5
	16			33.57	
	29			33.68	

95 HERCULIS, (2d *.)

1864.		h.	m.	s.	Mag.
July	6	17	55	34.15	
	15			34.10	5.5
	16			34.14	
	29			34.09	

LACAILLE 7551.

1864.		h.	m.	s.	Mag.
Aug.	1	17	56	15.39	7.0

γ^3 SAGITTARII.

1864.		h.	m.	s.	Mag.
Aug.	3	17	56	49.00	
	10			48.91	
	12			48.96	
	31			48.94	

70 OPHIUCHI, (1st *)

1864.		h.	m.	s.	Mag.
July	2	17	58	22.83	
	4			22.71	
	15			22.69	5.

70 OPHIUCHI, (2d *.)

1864.		h.	m.	s.	Mag.
July	2	17	58	23.20	
	4			23.08	
	15			23.23	

O. ARG. S. 17648.

1864.		h.	m.	s.	Mag.
May	22	17	58	57.20	7.5

B. A. C. 6131.

1864.		h.	m.	s.	Mag.
Aug.	3	17	59	55.62	7.3

O. ARG. S. 17681.

1864.		h.	m.	s.	Mag.
May	22	18	0	5.23	7.0
June	28			5.33	7.0
July	6			5.29	8.0
	25			5.29	7.0

O. ARG. S. 17728.

1864.		h.	m.	s.	Mag.
Aug.	10	18	1	20.64	8.5
	12			20.56	8.5

WEISSE 18.

1864.		h.	m.	s.	Mag.
July	15	18	2	25.88	9.0
	29			25.87	8.5

DORPAT 2281.

1864.		h.	m.	s.	Mag.
April	26	18	2	36.25	
July	25			36.18	6.5

B. A. C. 6160.

1864.		h.	m.	s.	Mag.
July	4	18	3	4.33	7.0
Aug.	1			4.41	
	12			4.36	6.7

DORPAT 2288.

1864.		h.	m.	s.	Mag.
Aug.	3	18	3	21.15	8.0

(*) — 23° 9′.

1864.		h.	m.	s.	Mag.
July	6	18	4	32.22	
Aug.	31			32.34	7.

μ SAGITTARII.

1864.		h.	m.	s.	Mag.
April	26	18	5	23.44	
June	28			23.51	
	29			23.54	
July	2			23.45	
	4			23.29	
	8			23.43	
	11			23.40	
	16			23.56	
	25			23.41	
	29			23.52	
Aug.	1			23.45	
	29			23.55	4.5

O. Arg. S. 14925.

1864.		h.	m.	s.	Mag.
April	23	15	42	8.94	6.0
June	7			9.00	6.5
	25			8.97	6.5
	28			8.96	6.7

O. Arg. S. 14933.

June	17	15	42	33.94	

B. A. C. 5240.

May	19	15	43	34.63	

ε Serpentis.

Mar.	27	15	43	50.31	
May	6			50.44	
June	16			50.37	
	20			50.30	
July	13			50.39	

(*) — 21° 35′.

May	5	15	45	8.85	8.2
June	25			8.90	7.6
July	13			8.90	8.5

λ Libræ.

April	23	15	45	12.69	5.5
July	14			12.68	

B. A. C. 5253.

May	19	15	45	32.42	

O. Arg. S. 15023.

Mar.	27	15	47	38.53	
April	23			38.50	7.0
June	28			38.69	7.7

(*) — 21° 49′.

June	20	15	48	36.70	
	25			36.49	8.0
July	13			36.60	8.4

B. A. C. 5281.

May	7	15	49	29.80	
June	10			29.81	
	16			29.78	6.5

O. Arg. S. 15072.

June	16	15	50	19.98	7.7

π Scorpii.

Mar.	27	15	50	23.26	4.0
April	23			23.21	3.0
June	28			23.41	3.0
July	14			23.31	3.5

B. A. C. 5296.

June	20	15	50	57.72	
	25			57.55	6.0
July	13			57.54	

Lacaille 6624.

1864.		h.	m.	s.	Mag.
May	19	15	51	0.06	

δ Scorpii.

April	23	15	52	3.60	3.0
May	5			3.60	
	7			3.58	
June	7			3.62	
July	14			3.66	
	15			3.66	

O. Arg. S. 15112.

June	25	15	52	45.85	(6.0)
July	13			45.97	7.2

B. A. C. 5308.

May	19	15	53	59.52	
June	16			59.53	

O. Arg. S. 15147.

June	20	15	54	35.40	

O. Arg. S. 15183.

July	13	15	56	35.60	

O. Arg. S. 15191.

July	13	15	56	58.48	

O. Arg. S. 15194.

June	16	15	57	13.03	
	25			12.98	6.5
	28			12.94	8.0

β Scorpii.

Mar.	27	15	57	18.08	
April	23			18.00	
May	7			18.14	
	19			18.02	
	20			18.09	
	21			18.04	
June	7			18.10	
July	2			18.15	
	14			18.05	
	15			18.10	

B. A. C. 5330.

Mar.	27	15	57	18.40	
May	7			18.44	
	20			18.48	
July	2			18.48	
	14			18.47	
	15			18.49	

O. Arg. S. 15205.

June	20	15	57	45.69	
July	13			45.74	6.0

O. Arg. S. 15271.

June	20	16	0	18.60	
	25			18.43	8.0
	28			18.48	8.5
July	13			18.46	8.2

Lacaille 6703.

1864.		h.	m.	s.	Mag.
July	14	16	0	42.74	7.0

Lacaille 6716.

July	14	16	1	42.11	7.7

B. A. C. 5364.

Mar.	27	16	1	42.95	8.2
June	16			43.02	
July	2			43.03	7.0

c² Scorpii.

Mar.	27	16	3	41.02	6.7
April	23			41.03	5.0
June	25			41.13	5.0

O. Arg. S. 15360.

May	20	16	3	50.71	

ν Scorpii.

May	20	16	3	51.80	
	21			51.66	

O. Arg. S. 15359.

June	20	16	3	54.21	
	28			53.96	8.3
July	2			54.10	8.5

O. Arg. S. 15388.

May	5	16	5	4.82	
June	20			5.06	
	28			4.90	8.0
July	2			4.89	8.0

B. A. C. 5394.

June	16	16	5	20.61	
July	13			20.67	6.7
	14			20.46	7.3

O. Arg. S. 15401.

July	15	16	5	39.08	

O. Arg. S. 15416.

Mar.	27	16	6	15.23	7.5
June	25			15.18	6.0

δ Ophiuchi.

May	5	16	7	0.73	
	20			0.75	
June	16			0.69	
	17			0.75	
	28			0.79	

Weisse 113.

July	14	16	7	5.83	

O. Arg. S. 15452.

June	20	16	8	7.80	
	25			7.47	7.5
July	2			7.54	7.6

O. Arg. S. 15466.

1864.		h.	m.	s.	Mag.
Mar.	27	16	8	44.04	7.7
April	23			43.99	6.0
July	13			44.12	7.3

(*) — 30° 7′.

May	5	16	10	6.46	8.3
June	28			6.46	8.6

(*) — 30° 5′.

June	25	16	10	16.38	8.2
	28			16.56	8.5
July	13			16.60	8.4

Weisse 221.

July	8	16	12	3.84	9.5

O. Arg. N. 16057.

July	14	16	12	22.48	7.0

Lacaille 6796.

July	13	16	12	25.98	7.0

Lacaille 6797.

July	13	16	12	34.09	7.0

θ Scorpii.

Mar.	27	16	12	40.96	
April	23			40.93	
June	17			41.06	
	18			41.04	

(*) + 79° 36′.

July	2	16	13	3.48	9.5

(*) + 79° 36′.

July	2	16	13	27.02	9.7

O. Arg. S. 15566.

June	16	16	14	29.98	
	20			30.13	
	25			29.90	7.5
	28			30.02	7.8

Lacaille 6818.

July	14	16	15	22.19	7.0

O. Arg. S. 15590.

April	23	16	15	54.78	5.0
June	28			54.83	5.0
July	13			54.90	5.5

B. A. C. 5476.

June	16	16	17	0.70	
	20			0.88	
	25			0.68	
July	5			0.66	7.5

O. ARG. S. 15643.

1864.		h.	m.	s.	Mag.
June	16	16	18	44.46	
	20			44.65	
	28			44.49	7.0
July	13			44.51	7.4

χ OPHIUCHI.

July	15	16	18	54.80	

O. ARG. S. 15659.

June	16	16	20	31.90	
	20			32.11	

α SCORPII.

Mar.	27	16	20	49.71	
April	23			49.68	
May	19			49.73	
June	17			49.76	
	25			49.66	
July	14			49.78	

O. ARG. S. 15694.

June	16	16	22	53.93	
	28			53.82	8.3
July	6			53.76	8.3

φ OPHIUCHI.

July	15	16	23	7.71	

O. ARG. S. 15712

July	4	16	24	6.38	8.3
	14			6.39	9.2

B. A. C. 5522.

July	13	16	24	6.39	7.2

O. ARG. S. 15713.

June	25	16	24	10.89	8.0
July	4			10.87	
	14			10.90	

LACAILLE 6891.

July	13	16	27	8.07	8.3

B. A. C. 5538.

June	28	16	27	10.10	3.5

(* 67 W.) — 4° 7′.

July	6	16	27	45.16	9.2
	15			45.07	9.5

A DRACONIS.

July	14	16	28	16.19	

WEISSE 539.

Aug.	10	16	28	54.86	7.0

ζ OPHIUCHI.

1864.		h.	m.	s.	Mag.
July	2	16	29	27.15	
	4			27.08	
	6			27.07	
	8			27.14	

O. ARG. S. 15783.

June	16	16	29	56.45	
	20			56.41	
	25			56.20	7.3

WEISSE 562.

July	13	16	30	3.85	8.8

WEISSE 575.

July	13	16	30	37.89	8.1

O. ARG. S. 15804.

June	16	16	31	24.93	
	20			24.80	

O. ARG. S. 15834.

July	2	16	32	57.76	8.5

O. ARG. S. 15836.

June	25	16	33	7.17	6.2
	28			7.25	7.3
July	2			7.25	7.0
	6			7.24	6.5

WEISSE 637.

July	13	16	33	32.40	9.0
	14			32.25	9.2
	15			32.36	9.6

O. ARG. S. 15881.

June	20	16	35	21.55	
	25			21.51	7.2
July	2			21.56	8.0
	6			21.53	7.6

B. A. C. 5600.

July	8	16	35	36.48	7.0

ζ HERCULIS.

June	16	16	36	0.51	
Aug.	10			0.57	

B. A. C. 5605.

July	13	16	36	24.37	

B. A. C. 5612.

July	13	16	37	55.14	
	14			55.05	7.2

O. ARG. S. 15950.

May	31	16	39	8.26	7.5
June	16			8.39	
	25			8.37	7.2
July	2			8.46	7.5

O. ARG. S. 15977.

1864.		h.	m.	s.	Mag.
July	15	16	40	27.62	7.8

B. A. C. 5630.

July	13	16	40	34.50	6.8
	14			34.38	6.5

18 OPHIUCHI.

July	15	16	41	13.30	
Aug.	10			13.34	

(*) — 4° 5′.

July	2	16	41	32.51	10.0

WEISSE 792.

May	31	16	41	44.83	9.0

(*) — 4° 55′.

July	14	16	43	55.17	9.0

O. ARG. S. 16043.

June	16	16	44	9.02	
	20			9.04	
	25			8.89	8.5

WEISSE 845.

July	2	16	44	21.42	7.8
	13			21.46	7.6
	15			21.43	8.0

WEISSE 854.

May	22	16	44	46.72	7.3
	31			46.54	7.0
July	6			46.77	7.3

WEISSE 859.

July	14	16	45	4.46	7.3

O. ARG. S. 16076.

June	16	16	45	42.29	
	20			42.44	

B. A. C. 5678.

June	25	16	46	9.82	
July	2			10.04	6.3
	15			9.92	7.0
Aug.	10			9.91	

O. ARG. S. 16100.

July	13	16	46	42.39	7.0
	14			42.32	7.7

B. A. C. 5684.

May	31	16	46	52.88	
July	2			52.95	7.0
	6			52.94	7.0

(*) — 31° 17′.

1864.		h.	m.	s.	Mag.
July	2	16	47	14.27	7.6
	6			14.30	7.
Aug.	10			14.38	

WEISSE 958.

July	2	16	50	55.65	8.0
	13			55.72	8.2
	15			55.68	8.2

κ OPHIUCHI.

May	22	16	51	2.54	
	31			2.54	
June	20			2.62	
	25			2.67	
	28			2.63	
July	6			2.56	

WEISSE 981.

July	13	16	52	26.16	
	14			26.03	
Aug.	12			26.06	

B. A. C. 5718.

June	28	16	52	49.71	5.0

B. A. C. 5721.

July	6	16	53	23.93	

30 OPHIUCHI.

July	2	16	53	40.69	6.0
	13			40.70	5.6

O. ARG. S. 16233.

June	20	16	53	44.71	
	25			44.54	7.0

WEISSE 1011.

July	2	16	53	55.21	8.6
	13			55.21	

B. A. C. 5730.

May	31	16	54	58.65	6.7
July	15			58.92	7.5

(*) — 4° 55′.

July	4	16	55	1.14	8.0

O. ARG. S. 16256.

June	16	16	55	5.85	
Aug.	10			5.83	7.2

O. ARG. S. 16262.

June	28	16	55	19.15	7.5

(*) — 28° 43.

June	25	16	55	57.44	9.0

(*) — 18° 59′.

1864.		h.	m.	s.	Mag.
Aug.	3	18	6	10.69	9.2

O. Arg. S. 17892.

Aug.	3	18	6	45.63	8.0
	12			45.71	7.7

O. Arg. S. 17905.

July	6	18	7	1.99	7.8
	8			2.00	8.0

O. Arg. S. 17916.

Aug.	3	18	7	13.38	
	12			13.35	8.0

B. A. C. 6182.

Aug.	1	18	7	14.59	7.0

(*) — 28° 46′.

Aug.	31	18	7	26.62	7.5

O. Arg. S. 17928.

Aug.	3	18	7	30.63	
	12			30.67	8.0

(*) — 19° 0′.

Aug.	3	18	8	10.94	

B. A. C. 6188.

Aug.	1	18	8	12.12	7.0

O. Arg. S. 17965.

Aug.	12	18	8	43.92	7.5

O. Arg. S. 18015.

April	26	18	10	29.94	
July	29			29.91	8.0

O. Arg. S. 18017.

July	29	18	10	30.94	7.5

B. A. C. 6202.

Aug.	1	18	11	22.45	6.7

O. Arg. S. 18044.

July	6	18	11	23.97	8.0
	8			24.04	8.0

(*) — 28° 25′.

July	25	18	12	9.02	8.8

B. A. C. 6220.

July	25	18	13	8.48	
Aug.	1			8.60	
	29			8.61	6.6

B. A. C. 6222.

1864.		h.	m.	s.	Mag.
July	6	18	13	33.62	7.5
	8			33.79	7.3

η Serpentis.

July	17	18	14	3.93	

B. A. C. 6266.

Aug.	1	18	19	37.61	7.0
	3			37.59	

O. Arg. S. 18248.

July	29	18	19	46.30	

B. A. C. 6279.

June	20	18	21	13.00	

B. A. C. 6284.

June	20	18	21	47.64	

B. A. C. 6286.

July	6	18	21	58.76	
	25			58.81	7.0

O. Arg. S. 18314.

Aug.	1	18	22	36.58	8.0
	10			36.53	8.5

B. A. C. 6292.

Aug.	3	18	23	6.10	7.0
	—			6.24	7.2

B. A. C. 6310.

July	5	18	25	14.93	
	6			14.80	
	25			14.76	6.0
Aug.	1			14.83	7.5
	3			14.86	7.0
	29			14.96	7.2

(*) — 31° 0′.

July	6	18	25	23.01	
Aug.	3			22.96	

O. Arg. S. 18395.

July	29	18	25	53.01	

1 Aquilæ.

May	22	18	27	35.24	
June	20			35.19	
	21			35.28	
	28			35.16	
July	2			35.24	
	4			35.21	
	5			35.27	
	11			35.23	
	14			35.28	
	17			35.27	
	25			35.21	
Aug.	10			35.28	
	12			35.34	
	31			35.36	

B. A. C. 6334.

1864.		h.	m.	s.	Mag.
Aug.	29	18	29	10.51	7.0

O. Arg. S. 18486.

July	11	18	29	56.87	8.0
	29			57.00	7.0

B. A. C. 6346.

June	21	18	30	32.27	7.5
	28			32.22	7.0
July	11			32.30	7.3

O. Arg. S. 18505.

July	2	18	31	9.64	
	15			9.65	8.7
Aug.	31			9.58	8.5

O. Arg. S. 18506, (1st *.)

July	2	18	31	13.25	
	15			13.12	9.0
Aug.	31			13.08	8.8

O. Arg. S. 18506, (2d *.)

July	2	18	31	13.48	
	15			13.50	6.0
Aug.	31			13.45	8.5

α Lyræ.

Jan.	11	18	32	11.87	
	15			11.93	
	21			11.90	
	22			11.86	
	24			11.90	
	25			11.87	
	27			11.87	
	28			11.84	
Feb.	4			11.91	
	10			11.86	
	12			11.97	
Oct.	25			11.98	
	29			11.95	
Nov.	10			11.92	
Dec.	1			11.98	

26 Sagittarii.

June	28	18	33	19.19	5.5
July	5			19.08	5.6

O. Arg. S. 18564.

Aug.	1	18	34	6.60	7.5
	31			6.57	7.2

B. A. C. 6361.

Aug.	29	18	34	36.44	5.3

O. Arg. S. 18577.

July	16	18	34	40.22	5.7
	29			40.14	

O. Arg. S. 18584.

July	16	18	35	3.51	8.0

O. Arg. S. 18604.

1864.		h.	m.	s.	Mag.
June	28	18	35	53.62	6.5
Aug.	21			53.65	7.0

O. Arg. S. 18609.

July	8	18	36	16.98	8.0

O. Arg. N. 18534.

July	15	18	36	46.92	8.0

φ Sagittarii.

July	17	18	36	54.55	

O. Arg. S. 18623.

July	8	18	36	57.11	7.3
	29			57.11	6.7

O. Arg. S. 18625.

Aug.	1	18	36	57.57	7.3

(*) — 72° 15′.

July	15	18	38	23.39	7.5

B. A. C. 6382.

June	26	18	38	47.51	7.0
July	5			47.61	8.4
	8			47.49	8.0

5 Aquilæ, (1st *.)

July	16	18	39	14.80	

5 Aquilæ, (2d *.)

July	16	18	39	15.62	

Lalande 34860.

Aug.	31	18	39	58.79	7.2

(*) — 6° 9′.

July	2	18	41	8.25	10.0

Dorpat 2391.

July	2	18	41	9.50	7.0
	15			9.48	7.0

Lalande 34916.

June	28	18	41	21.17	7.0
July	5			21.04	6.0

29 Sagittarii.

July	17	18	41	21.61	

(*) — 19° 18′.

July	29	18	41	39.67	

B. A. C. 6403.

1864.		h. m. s.	Mag.
Aug.	1	18 41 57.21	7.0
	12	57.26	7.0

(*) — 30° 52′.

July	11	18 41 59.28	8.5

B. A. C. 6414.

June	21	18 43 42.17	7.0
	28	42.22	6.5
July	2	42.10	6.5
	8	42.23	6.5
	11	42.19	
Aug.	12	42.20	6.0
	29	42.23	
	31	42.20	6.5

β LYRÆ.

Jan.	13	18 44 54.66	
	15	54.12	
	25	54.65	
July	6	54.68	
	8	54.62	
	13	54.69	
Nov.	10	54.73	

WEISSE 1143.

Aug.	3	18 45 28.67	9.0

33 SAGITTARII.

July	8	18 45 37.95	6.0

ν^1 SAGITTARII.

June	28	18 45 42.86	4.5

σ SAGITTARII.

June	20	18 46 35.03	
July	5	34.95	
	15	35.00	
	16	35.00	
	17	34.98	
Aug.	29	35.05	
	31	34.94	

(*) — 7° 30′.

July	29	18 46 38.84	
	30	38.87	

ν^2 SAGITTARII.

June	20	18 46 39.24	
	28	39.27	5.0

WEISSE 1219.

July	2	18 48 24.35	9.5

DORPAT 2417, (1st *.)

June	20	18 49 15.54	

DORPAT 2417, (2d *.)

June	20	18 49 17.10	

(*) — 19° 21′.

1864.		h. m. s.	Mag.
June	20	18 49 21.81	
	28	21.84	6.0
July	8	21.79	7.3

ξ^2 SAGITTARII.

May	23	18 49 22.58	
July	17	22.67	

O. ARG. S. 18883.

July	5	18 49 23.40	8.5

RUMKER 6881.

Aug.	1	18 50 41.83	7.3

O. ARG. S. 18916.

Aug,	3	18 51 12.45	8.0
	29	12.59	8.2
	31	12.43	8.0

O. ARG. S. 18915.

July	11	18 51 13.65	8.5

WEISSE 1299.

July	2	18 51 27.88	8.2

O. ARG. S. 18939.

July	8	18 52 15.85	8.5
	25	15.81	9.0

DORPAT 2425, (Sd.)

June	20	18 52 57.54	
July	29	57.36	

DORPAT 2425, (Nd.)

June	20	18 52 57.54	
July	29	57.46	

B. A. C. 6485.

Aug.	12	18 53 11.18	6.7

ζ SAGITTARII.

Aug.	31	18 53 41.99	3.0

LALANDE 35468.

Aug.	1	18 54 0.23	7.5

LALANDE 35497.

June	21	18 54 49.91	7.0
	28	49.97	6.0
July	8	49.96	6.7
	25	49.96	6.5

WEISSE 1398.

Aug.	3	18 55 29.22	9.0
	29	29.31	9.0

DORPAT 2434, (1st *.)

1864.		h. m. s.	Mag.
July	2	18 55 31.77	8.2
	11	31.73	
	29	31.78	

DORPAT 2434, (2d *.)

July	2	18 55 32.89	8.4
	11	32.94	

O. ARG. S. 19007.

July	4	18 55 50.81	8.5
	5	51.01	8.0

WEISSE 1412.

Aug.	3	18 55 55.29	8.9
	29	55.40	8.5

B. A. C. 6505.

Aug.	31	18 56 9.80	6.5

(*) — 23° 28′.

June	21	18 58 4.24	
	28	4.24	7.5

B. A. C. 6525.

July	4	18 58 41.68	6.0
	5	41.74	5.0

ζ AQUILÆ.

July	25	18 58 58.52	
	30	58.46	
Aug.	1	58.51	
	3	58.44	
	15	58.48	
	30	58.53	
Nov.	5	58.59	

B. A. C. 6531.

Aug.	31	18 59 16.93	

DORPAT 2447.

July	16	18 59 20.26	
	29	20.27	
Aug.	12	20.27	

(*) — 8° 51′.

July	2	18 59 37.26	9.5

B. A. C. 6533.

Aug.	29	18 59 41.20	6.0

O. ARG. S. 19120.

June	21	19 0 16.79	
	28	16.73	6.5
July	8	16.75	6.2

LALANDE 35791.

July	2	19 0 41.70	

B. A. C. 6546.

1864.		h. m. s.	Mag.
July	4	19 1 1.15	7.0

O. ARG. S. 19143.

June	28	19 1 6.96	6.0

π SAGITTARII.

July	17	19 1 26.17	

B. A. C. 6549.

Aug.	1	19 1 32.52	
	15	32.45	6.5

(*) — 8° 3′.

July	8	19 3 39.57	7.5

(*) — 8° 10′.

July	6	19 4 30.73	8.0

20 AQUILÆ.

July	29	19 5 4.97	
	30	5.10	
Aug.	29	4.95	
	30	5.04	

B. A. C. 6568.

July	25	19 5 42.99	
Aug.	2	43.12	6.5

(*) — 8° 33′.

July	2	19 6 14.55	10.0

(*) — 22° 11′.

Aug.	1	19 6 29.18	

B. A. C. 6577.

Aug.	29	19 7 17.77	

O. ARG. S. 19314.

July	11	19 8 0.55	7.2
	15	0.62	7.8
Aug.	12	0.60	7.7

WEISSE 224.

Aug.	1	19 10 7.39	7.5

LALANDE 36252.

July	29	19 10 31.53	8.0

(*) — 23° 49′.

July	5	19 10 49.39	7.2
	25	49.20	

1864.	h.	m.	s.	Mag.
ω AQUILÆ.				
July 4	19	11	14.69	
8			14.72	
11			14 70	
15			14.64	
18			14.63	
30			14.69	
Aug. 29			14.57	
DORPAT 2492.				
July 16	19	11	25.01	
Aug. 1			25.14	5.7
B. A. C. 6604.				
Aug. 12	19	12	10.79	
B. A. C. 6607.				
July 29	19	12	14.60	
DORPAT 2497, (1st *.)				
July 2	19	13	7.59	
5			7.51	7.0
DORPAT 2497, (2d *.)				
July 2	19	13	7.64	
5			7.52	6.8
O. ARG. S. 19459.				
July 11	19	14	52.18	7.8
O. ARG. S. 19465.				
July 11	19	14	59.91	8.0
B. A. C. 6627.				
Aug. 29	19	15	38.27	
(*) — 23° 25′.				
July 4	19	16	7.52	8.5
Aug. 1			7.66	8.3
(*) — 8° 9′.				
July 6	19	16	9.34	6.0
(*) — 23° 18′.				
July 8	19	16	40.46	
(*) — 23° 26′.				
July 6	19	17	14.11	8.5
11			14.22	8.5
B. A. C. 6639.				
Aug. 1	19	18	5.28	6.0
29			5.44	5.7

1864.	h.	m.	s.	Mag.
δ AQUILÆ.				
June 28	19	18	26.22	
July 2			26.34	
5			26.33	
8			26.38	
13			26.35	
25			26.35	
29			26.40	
Aug. 12			26.34	
WEISSE 438.				
July 5	19	18	33.58	7.4
O. ARG. S. 19587.				
July 6	19	20	13.58	8.5
LACAILLE 8120.				
July 29	19	21	13.66	7.0
Aug. 1			13.57	6.2
O. ARG. S. 19660.				
Aug. 12	19	23	19.11	7.0
O. ARG. S. 19674.				
July 15	19	24	1.14	7.0
B. A. C. 6684.				
July 29	19	24	10.84	6.5
Aug. 1			10.64	7.0
O. ARG. S. 19685.				
July 6	19	24	23.23	9.0
Aug. 31			23.11	9.0
(*) — 27° 27′.				
Aug. 31	19	25	7.18	
O. ARG. S. 19708.				
July 6	19	25	45.52	8.5
Aug. 12			45.57	8.0
29			45.54	8.5
31			45.41	9.0
O. ARG. S. 19713.				
July 6	19	25	53.47	9.0
Aug. 31			53.40	9.0
LACAILLE 8152.				
July 8	19	26	8.33	7.0
WEISSE 692.				
July 4	19	28	6.66	8.5
WEISSE 719.				
July 25	19	29	5.77	8.0
Aug. 29			5.74	8.7

1864.	h.	m.	s.	Mag.
WEISSE 722.				
Aug. 12	19	29	9.29	6.5
κ AQUILÆ.				
June 20	19	29	21.48	
21			21.50	
July 2			21.45	
15			21.39	
16			21.47	
18			21.46	
Aug. 1			21.44	
31			21.43	
(*) — 24° 33′.				
July 11	19	33	33.90	9.0
O. ARG. S. 19879.				
July 11	19	34	9.08	7.7
25			9.02	7.5
Aug. 1			9.14	7.5
e^2 SAGITTARII.				
June 20	19	34	30.48	
21			30.48	
(*) + 8° 2′.				
July 11	19	35	54.55	
DORPAT 2562, (1st *.)				
July 11	19	35	57.92	9.0
Aug. 12			58.16	
DORPAT 2562, (2d *.)				
July 11	19	35	59.94	8.0
Aug. 1			59.88	
(*) — 23° 11′.				
July 6	19	36	10.19	6.5
Aug. 1			10.14	7.5
O. ARG. S. 19909.				
July 25	19	36	16.76	6.9
Aug. 29			16.70	
31			16.66	7.0
f SAGITTARII.				
June 20	19	38	11.50	
21			11.43	
(*) + 4° 40′.				
Aug. 1	19	39	19.65	9.0
γ AQUILÆ.				
Feb. 19	19	39	36.21	
26			36.22	
May 24			36.25	
June 20			36.17	
July 4			36.31	
6			36.22	
18			(36.02)	
Dec. 6			36.21	

1864.	h.	m.	s.	Mag.
O. ARG. N. 19614.				
Aug. 29	19	41	45.82	
(119 W.) + 58° 25′.				
July 25	19	41	52.38	9.2
α AQUILÆ.				
Jan. 9	19	43	57.14	
11			57.10	
15			57.10	
21			57.11	
24			57.01	
26			57.09	
27			57.05	
28			57.14	
Feb. 4			57.13	
7			57.18:	
8			57.07	
10			57.14	
12			57.03	
19			57.08	
26			57.11	
Mar. 2			57.13	
Dec. 6			57.13	
O. ARG. S. 20030.				
Aug. 1	19	44	28.29	7.5
31			28.11	7.5
B. A. C. 6814.				
Aug. 31	19	45	54.29	6.5
57 AQUILÆ, (1st *.)				
July 25	19	47	2.80	5.0
57 AQUILÆ, (2d *.)				
July 25	19	47	3.15	5.5
B. A. C. 6829.				
Aug. 31	19	47	59.95	
β AQUILÆ.				
May 24	19	48	26.15	
July 6			26.18	
8			26.24	
29			26.21	
O. ARG. S. 20086.				
Aug. 29	19	48	37.73	8.5
O. ARG. S. 20095.				
Aug. 29	19	48	49.73	8.3
DORPAT 2601.				
Aug. 1	19	49	46.15	9.0
B. A. C. 6841.				
June 21	19	50	7.52	
Aug. 31			7.50	

1864.		h.	m.	s.	Mag
(*) + 6° 32′.					
Aug.	1	19	53	8.59	8.0
	29			8.53	8.0
Dorpat 2612, (1st *.)					
Aug.	1	19	54	32.20	
	29			32.02	8.0
Dorpat 2612, (2d *.)					
Aug.	1	19	54	34.12	9.0
	29			34.15	9.5
Dorpat 2613, (1st *.)					
July	18	19	54	45.94	
	25			46.00	
Aug.	31			45.86	8.0
Dorpat 2613, (2d *.)					
July	18	19	54	46.00	
	25			46.09	
Aug.	31			45.91	8.3
Weisse 1394.					
July	25	19	55	30.32	6.8
Aug.	31			30.29	7.7
Dorpat 2615.					
Aug.	29	19	56	7.06	7.0
O. Arg. S. 20246.					
July	25	19	59	18.21	7.5
(*) — 18° 19′.					
Aug.	1	19	59	42.86	9.0
Weisse 1512.					
Aug.	29	20	0	43.74	7.0
(*) — 14° 11′.					
Aug.	1	20	3	39.87	7.0
	29			39.83	7.5
Weisse 81.					
Aug.	1	20	4	57.55	7.8
	29			57.48	7.0
	31			57.42	8.7
Weisse 122.					
Aug.	31	20	6	19.66	8.5
O. Arg. S. 20370.					
Aug.	31	20	9	44.45	9.0

1864.		h.	m.	s.	Mag.
α^2 Capricorni.					
May	24	20	10	16.94	
June	21			16.96	
July	18			16.97	
	19			16.99	
	25			17.08	
Aug.	12			17.04	
	24			16.99	
	29			17.00	
Nov.	5			17.02	
O. Arg. S. 20393.					
Aug.	31	20	11	20.81	9.0
B. A. C 6992.					
June	21	20	12	54.35	
β Capricorni.					
June	21	20	13	6.59	
Lacaille 8418.					
Aug.	24	20	13	59.31	6.5
O. Arg. S. 20443.					
July	11	20	14	23.23	8.0
Lalande 38208.					
July	18	20	16	7.09	7.0
(*) — 22° 15′.					
July	11	20	17	22.28	8.8
B. A. C. 7040.					
Aug.	24	20	20	25.92	6.5
ρ Capricorni.					
May	24	20	21	52.30	
July	11			52.27	
	18			52.36	
	19			52.27	
Aug.	15			52.22	
Nov.	5			52.19	
(*) — 21° 44′.					
Aug.	24	20	25	25 90	9.2
ϵ Delphini.					
July	11	20	26	31.47	
Aug.	15			31.48	
Sept.	1			31.43	
Weisse 743.					
Aug.	31	20	29	38.07	
B. A. C. 7113.					
Aug.	1	20	29	47.47	7.0
	24			47.40	6.5
Nov.	5			47.60	7.0

1864.		h.	m.	s.	Mag.
Lacaille 8517.					
Aug.	31	20	31	32.28	6.0
B. A. C. 7147.					
Nov.	5	20	33	2.52	6.5
B. A. C. 7148.					
Aug.	24	20	33	5.00	7.0
O. Arg. S. 20765.					
Aug.	31	20	35	16.39	9.0
Weisse 905.					
Aug.	1	20	35	41.99	
Sept.	1			41.87	
α Cygni.					
Feb.	4	20	36	39.54	
Mar.	6			39.51	
	8			39.62	
	11			39.62	
April	28			39.59	
Lacaille 8546.					
Aug.	24	20	36	48.72	6.7
	29			48.72	6.0
B. A. C. 7180.					
Aug.	30	20	38	3.24	
Nov.	5			3.13	7.7
O. Arg. S. 20827.					
Aug.	31	20	38	14.53	7.8
Lacaille 8574.					
Aug.	29	20	40	43.91	7.0
Weisse 1057.					
Aug.	1	20	41	22.57	6.7
Sept.	1			22.62	
Lacaille 8585.					
Aug.	31	20	42	0.81	
μ Aquarii.					
June	21	20	45	5.99	
Aug.	1			6.03	
	24			5.99	
	30			5.95	
	31			5.89	
Sept.	1			6.04	
Nov.	6			5.95	
B. A. C. 7244.					
Aug.	29	20	45	47.47	7.0
Nov.	5			47.45	7.5

1864.		h.	m.	s.	Mag
32 Vulpeculæ.					
Aug.	29	20	48	35.49	
20 Capricorni.					
Nov.	6	20	51	38.46	7.0
Lacaille 8642.					
Aug.	31	20	52	47.99	6.7
O. Arg. S. 21046.					
Aug.	29	20	54	0.30	9.
Lacaille 8658.					
Aug.	30	20	54	31.24	
O. Arg. S. 21053.					
Aug.	29	20	54	47.41	
Nov.	5			47.53	
	6			47.42	7.2
Lacaille 8681.					
Aug.	31	20	57	41.62	6.3
Lacaille 8691.					
Aug.	30	20	59	4.03	
Lacaille 8693.					
Aug.	31	20	59	50.92	
O. Arg. S. 21148.					
Nov.	5	21	0	43.32	9.0
B. A. C. 7340.					
Aug.	29	21	1	3.91	6.7
O. Arg. S. 21162.					
Aug.	24	21	1	54.79	7.6
	30			54.82	
ν Aquarii.					
Nov.	6	21	1	57.84	
Lacaille 8722.					
Aug.	31	21	4	3.34	
B. A. C. 7359.					
Aug.	24	21	5	8.80	6.7
ζ Cygni.					
Mar.	23	21	6	58.80	
April	28			58.67	
Aug.	27			(58.84)	
	30			58.71	
Nov.	5			58.77	
	6			58.72	
Dec.	30			58.78	

LACAILLE 8742.

1864.		h.	m.	s.	Mag.
Aug.	31	21	7	3.08	6.0

O. ARG. S. 21283.

Nov.	5	21	10	34.60	8.5
	6			34.60	8.5

ι CAPRICORNI.

June	22	21	14	26.76	

(*) — 23° 18′.

Aug.	24	21	14	44.80	8.5
Nov.	5			44.69	9.0

LACAILLE 8791.

Aug.	31	21	14	48.85	6.8

B. A. C. 7413.

July	20	21	14	58.49	
Aug.	24			58.57	
Nov.	5			58.61	

1 PEGASI.

June	22	21	15	36.62	

O. ARG. S. 21355.

Nov.	6	21	16	11.37	8.0

LALANDE 41550.

Nov.	5	21	16	19.77	7.5

(*) — 23° 53′.

Nov.	5	21	17	14.72	9.0

B. A. C. 7432.

Aug.	31	21	17	37.11	5.0

O. ARG. S. 21374.

July	20	21	17	44.37	6.5
Nov.	6			44.73	7.3

B. A. C. 7436.

Aug.	24	21	17	44.71	6.0

LACAILLE 8823.

Aug.	31	21	20	47.41	6.7

β AQUARII.

April	28	21	24	11.17	
June	22			11.21	
July	20			11.23	
Sept.	1			11.14	
Nov.	6			11.20	

LACAILLE 8846.

1864.		h.	m.	s.	Mag.
Aug.	31	21	26	4.13	6.0

β Cephi.

Jan.	11	21	26	50.21	
	14			50.25	
	16			50.36	
	22			50.35	
	23			50.43	
	29			50.34	
Feb.	5			50.39	
Mar.	2			50.43	
	6			50.33	
	8			50.23	
	11			50.30	
	15			50.29	
	23			50.36	
April	7 S. P.			50.14	
	28			50.47	

B. A. C. 7492.

Sept.	1	21	27	15.04	

(*) — 36° 30′.

Aug.	31	21	28	18.01	9.0

LACAILLE 8854.

Aug.	31	21	28	24.56	

ζ AQUARII.

June	22	21	30	17.81	
July	20			17.80	
	24			17.76	
Nov.	6			17.74	

(*) — 40° 12′.

Nov.	5	21	30	20.30	7.0

LACAILLE 8870.

Sept.	1	21	30	58.14	

LACAILLE 8873.

Aug.	31	21	32	1.09	5.8

LACAILLE 8887.

Aug.	31	21	33	53.00	7.0

LACAILLE 8891.

Sept.	1	21	33	56.71	

O. ARG. S. 21588.

July	20	21	35	21.30	

B. A. C. 7550.

Nov.	5	21	35	23.22	6.0

LACAILLE 8896.

Aug.	31	21	35	51.75	5.8

LACAILLE 8900.

1864.		h.	m.	s.	Mag.
Aug.	31	21	36	20.96	7.2

ε PEGASI.

Jan.	2	21	37	18.57	
	11			18.61	
	16			18.59	
	20			18.52	
	27			18.60	
Mar.	2			18.57	
	6			18.59	
	8			18.60	
	11			18.52	
	13			18.56	
	23			18.56	
	26			18.61	
April	28			18.53	
Aug.	9			18.62	
Dec.	30			18.62	

LACAILLE 8907.

Sept.	1	21	37	20.99	

LACAILLE 8915.

Aug.	31	21	39	1.52	5.7

θ PISCIS AUSTRALIS.

Nov.	5	21	39	30.52	5.0

11 CEPHEI.

July	20	21	39	51.38	

LACAILLE 8941.

Sept.	1	21	43	26.40	

O. ARG. S. 21710.

July	20	21	45	15.59	8.3

μ CAPRICORNI.

June	23	21	45	39.56	
Aug.	31			39.60	
Sept.	1			39.52	

79 DRACONIS.

June	23	21	51	7.59	

B. A. C. 7665.

Oct.	25	21	54	29.12	7.5

α AQUARII.

June	23	21	58	35.49	
July	20			35.49	
Aug.	17			35.51	
Oct.	25			35.46	

B. A. C. 7702.

June	20	22	0	13.61	5.0

36 AQUARII.

1864.		h.	m.	s.	Mag.
Oct.	25	22	2	2.44	7.0

LACAILLE 9047.

July	20	22	3	40.71	7.0

(*) — 26° 24′.

Oct.	25	22	7	15.47	7.8

θ AQUARII.

June	23	22	9	26.62	
July	20			26.64	
Aug.	17			26.59	

ρ AQUARII.

June	23	22	12	49.70	

γ AQUARII.

July	20	22	14	25.44	

WEISSE 331.

Oct.	25	22	16	40.51	8.5

WEISSE 346.

Oct.	25	22	17	4.58	8.0

π AQUARII.

July	20	22	18	(7.35)	
Aug.	17			7.57	

35 PEGASI.

Oct.	25	22	20	46.23	6.0

ζ AQUARII, (1st *.)

June	23	22	21	37.26	

ζ AQUARII, (2d *.)

June	23	22	21	37.41	

LACAILLE 9159.

Oct.	25	22	23	5.19	7.3

O. ARG. S. 22237.

Oct.	25	22	27	5.20	8.3

η AQUARII.

June	23	22	28	9.69	
Dec.	24			9.68	

κ AQUARII.

June	23	22	30	30.23	

1864.		h.	m.	s.	Mag.
O. Arg. S. 22291.					
Oct.	25	22	30	36.52	8.2
ε Piscis Australis.					
Oct.	25	22	32	54.11	5.0
ζ Pegasi.					
Aug.	17	22	34	28.90	
O. Arg. S. 22373.					
Oct.	25	22	36	46.76	9.0
g^2 Aquarii.					
Oct.	29	22	40	1.45	6.0
Lacaille 9269.					
Oct.	25	22	41	40.89	
λ Aquarii.					
July	21	22	45	18.54	
Oct.	25			18.45	
	29			18.49	
δ Aquarii.					
June	24	22	47	12.99	
July	21			13.04	
Lalande 44823.					
Oct.	29	22	47	59.25	6.5
α Piscis Australis.					
Jan.	16	22	49	54.58:	
	20			54.51	
	27			54.37	
	28			54.43	
Feb.	4			54.43	
June	24			54.39	
(*) — 7° 50′.					
Oct.	29	22	53	18.57	9.0
81 Aquarii.					
Oct.	29	22	54	6.84	6.0

1864.		h.	m.	s.	Mag.
α Pegasi.					
Jan.	9	22	57	47.38	
	20			47.35	
	22			47.32	
	23			47.44	
	25			47.46	
	26			47.38	
	27			47.40	
	28			47.44	
Feb.	4			47.34	
	10			47.38	
	13			47.29	
	16			47.34	
	23			47.27	
June	24			47.39	
Dec.	24			47.36	
Lalande 45137.					
Oct.	25	22	57	48.02	6.5
	29			48.00	6.7
(*) — 20° 27′.					
Oct.	29	23	6	42.15	7.2
φ Aquarii.					
June	24	23	7	4.23	
Lalande 45473.					
Oct.	25	23	7	7.62	8.5
γ Piscium.					
June	24	23	9	54.49	
	25			54.45	
July	21			54.51	
Oct.	29			54.46	
Lacaille 9440.					
Oct.	25	23	11	44.97	6.0
O. Arg. S. 22766.					
Oct.	29	23	13	2.98	
O. Arg. S. 22800.					
Oct.	29	23	15	47.80	7.7
O. Arg. S. 22817.					
Oct.	25	23	17	3.65	9.0

1864.		h.	m.	s.	Mag.
Radcliffe 6067.					
Dec.	24	23	18	29.63	8.0
κ Piscium.					
June	25	23	19	45.29	
July	21			45.36	
	22			45.40	
Radcliffe 6081.					
Dec.	24	23	20	39.64	8.0
B. A. C. 8184.					
Oct.	25	23	22	17.75	6.0
Lacaille 9508.					
Oct.	29	23	24	32.84	6.5
O. Arg. S. 22897.					
Dec.	24	23	25	45.85	
O. Arg. S. 22911.					
Oct.	25	23	27	17.68	8.0
	29			17.59	8.0
B. A. C. 8213.					
April	26	23	27	49.38	S. P.
Mar.	8			48.27	S. P.
Weisse 613.					
Oct.	25	23	30	5.17	9.0
ι Piscium.					
June	24	23	32	45.05	
	25			45.06	
July	22			44.94	
Oct.	25			45.00	
Dec.	6			44.98	
O. Arg. S. 22993.					
Oct.	29	23	34	28.76	
δ Sculptoris.					
Nov.	5	23	41	37.56	
21 Piscium.					
Dec.	24	23	42	17.31	6.0

1864.		h.	m.	s.	Mag.
B. A. C. 8287.					
Dec.	6	23	43	19.47	7.5
Lalande 46763.					
Dec.	6	23	45	26.25	7.0
B. A. C. 8304.					
Nov.	5	23	46	6.14	6.8
O. Arg. S. 23120.					
Dec.	24	23	47	25.52	9.0
O. Arg. S. 23126.					
Dec.	24	23	48	34.57	9.4
Lacaille 9663.					
Dec.	6	23	50	23.93	6.5
(*) — 20° 47′.					
Nov.	5	23	51	30.71	9.0
ω Piscium.					
July	22	23	52	7.50	
Nov.	10			7.35	
Dec.	6			7.38	
	24			7.47	
O. Arg. S. 23166.					
Nov.	5	23	52	11.92	7.5
O. Arg. S. 23206.					
Nov.	5	23	55	45.97	7.2
Dec.	6			45.93	6.5
Lacaille 9722.					
Nov.	12	23	59	5.05	7.0
Lacaille 9724.					
Oct.	29	23	59	39.87	6.3
Nov.	5			40.02	6.8
	10			39.92	7.0
Weisse 1222.					
Dec.	6	23	59	53.86	7.8

MEAN DECLINATIONS FOR 1860.0

OF

STARS OBSERVED

WITH THE

MURAL CIRCLE,

1864.

MEAN DECLINATIONS FOR 1860.0,

MURAL CIRCLE.

α Andromedæ, 0h. 1m. 9s.

		°	′	″
November	5	+28	19	1.8
	25			3.1

α Andromedæ, (Ref.)

November	5	+28	19	4.3
	25			1.9

Weisse XXIII, 1267, 0h. 1m. 40s.

November	10	−0	5	12.0
	12			11.4
	29			12.8

β Cassiopeæ, S. P., 0h. 1m. 42s.

May	17	+58	22	38.3

γ Pegasi, 0h. 6m. 2s.

November	1	+14	24	19.4
December	6			19.4

γ Pegasi, (Ref.)

November	1	+14	24	20.8
	24			17.6

Anonymous, 0h. 9m. 37s.

November	12	−0	0	20.5
	29			21.3

Anonymous, 0h. 10m. 50s.

October	29	−0	9	40.7
November	5			41.4
December	6			40.6

ι Ceti, 0h. 12m. 18s.

October	28	−9	35	58.8
	31			60.6

Lacaille 48, 0h. 13m. 45s.

November	14	−24	24	24.5
	25			27.0

Weisse O, 247, 0h. 14m. 48s.

December	24	+6	14	7.7

Weisse O, 302, 0h. 18m. 30s.

		°	′	″
December	29	+6	55	2.7

Lacaille 126, 0h. 26m. 44s.

November	12	−39	27	24.8

Anonymous, 0h. 29m. 25s.

November	10	−39	3	49.9
December	24			51.1

Anonymous, 0h. 31m. 27s.

November	12	−32	48	12.4
	29			16.5

55 **Piscium**, 0h. 32m. 33s.

October	28	+20	40	13.4
November	4			11.4

α Cassiopeæ, 0h. 32m. 35s.

November	16	+55	46	8.9
	25			8.8

α Cassiopeæ, (Ref.)

November	16	+55	46	8.0
	25			8.6

Weisse O, 583, 0h. 34m. 9s.

December	22	+2	49	50.6
	24			50.2

O. **Arg.** S. 369, 0h. 35m. 39s.

October	29	−20	57	41.8

λ^1 **Sculptoris**, 0h. 35m. 58s.

October	25	−39	13	52.6
November	1			52.5

λ^2 **Sculptoris**, 0h. 37m. 24s.

October	25	−39	11	35.8
November	1			36.4

δ Piscium, 0h. 41m. 23s.

		°	′	″
October	28	+6	49	23.1
November	4			20.5
	10			22.6

δ Piscium, (Ref.)

November	10	+6	49	20.8

O. **Arg.** S. 433, 0h. 41m. 49s.

October	25	−29	15	30.2

O. **Arg.** S. 442, 0h. 42m. 24s.

October	29	−23	58	51.1

Weisse O, 770, 0h. 44m. 25s.

December	24	+3	15	37.2

Weisse O, 775, 0h. 44m. 43s.

December	22	+3	17	55.4
	24			54.6

20 **Ceti**, 0h. 45m. 50s.

October	28	−1	54	16.8
November	4			18.9
	29			18.0

Anonymous, 0h. 49m. 15s.

December	20	−27	6	24.1

O. **Arg.** S. 544, 0h. 51m. 46s.

October	29	−20	23	21.1

Weisse O, 928, 0h. 53m. 37s.

December	22	+4	4	45.1

26 **Ceti**, 0h. 56m. 36s.

October	28	+0	36	57.7
	29			56.5
November	23			57.8

Anonymous, 0h. 56m. 43s.

November	12	−32	49	52.7

O. **Arg.** S. 613, 0h. 58m. 42s.

November	29	−29	4	18.2

β Andromedæ, 1h. 1m. 54s.

		°	′	″
November	23	+34	52	37.9

35 **Ceti**, 1h. 5m. 16s.

October	29	+1	43	52.3

ζ Piscium, (1st *,) 1h. 6m. 22s.

December	12	+6	50	4.0

ζ Piscium, (2d *,) 1h. 6m. 22s.

December	12	+6	50	15.7

Polaris, 1h. 8m. 2s.

March	3	+88	33	47.1
	24			48.1
April	11			47.3
May	4			46.6
October	28			48.0
November	4			46.8
	12			47.3
	16			47.2
	23			47.3
	25			47.7
	29			47.6
	30			47.8
December	12			47.1
	14			48.1
	22			48.5

Polaris, (Ref.)

October	25	+88	33	47.1
	29			47.7
November	16			48.5
	29			48.2
December	20			48.6

Polaris, S. P.

March	24	+88	33	48.4
April	21			47.1
	22			46.1
	23			48.1
	28			45.9
	29			46.4
May	5			46.6
	7			48.3
June	10			(48.2)
	15			(47.3)
	20			(49.9)
September	1			46.1
October	7			47.1
	17			47.8
	20			47.3

POLARIS, S. P., (Ref.)

		° ′ ″
April	22	+88 33 46.7
May	30	(43.8)
June	3	(42.8)
	20	(43.5)

O. ARG. S. 752, 1h. 11m. 54s.

December	22	−29 28 14.5

δ CASSIOPEÆ, 1h. 16m. 41s.

November	14	+59 30 22.4

WEISSE I, 269, 1h. 17m. 10s.

December	29	+ 5 45 14.7

O. ARG. S. 818, 1h. 17m. 47s.

November	5	−29 13 52.2
	10	49.8

A CASSIOPEÆ, 1h. 20m. 52s.

December	22	+69 32 32.7

A CASSIOPEÆ, S. P.

April	29	+69 32 28.7
May	17	30.0

μ PISCIUM, 1h. 22m. 50s.

November	10	+ 5 25 17.3
	12	16.7
	14	17.7

η PISCIUM, 1h. 24m. 0s.

October	28	+14 37 23.4
November	4	22.8

η PISCIUM, (Ref.)

October	29	+14 37 22.1

LACAILLE 451, 1h. 27m. 33s.

November	5	−29 30 8.6
	10	9.3
	12	9.1

ANONYMOUS, 1h. 28m. 31s.

November	30	−24 10 2.1
December	22	1.7

103 PISCIUM, 1h. 31m. 42s.

November	23	+15 54 51.4

B. A. C. 504, 1h. 32m. 15s.

October	28	−25 44 6.0
November	4	7.2

ν PISCIUM, 1h. 34m. 6.

		° ′ ″
October	25	+ 4 46 41.5
November	14	(44.5)
December	29	41.0

ν PISCIUM, (Ref.)

October	25	+ 4 46 40.9

LACAILLE 492, 1h. 34m. 53s.

November	5	−34 6 30.1
	12	26.3
	29	28.7

ο PISCIUM, 1h. 38m. 0s.

January	20	+ 8 27 6.9

LALANDE 3237, 1h. 38m. 42s.

October	28	− 2 37 43.5
November	4	46.1

LACAILLE 513, 1h. 39m. 32s.

November	14	−28 2 56.9
	23	56.9

B. A. C. 563, 1h. 43m. 45s.

December	6	−39 6 34.3
	22	32.5

WEISSE I, 772, 1h. 43m. 46s.

December	29	+ 7 51 19.1

ε CASSIOPEÆ, 1h. 44m. 21s.

November	5	+62 58 42.6
	29	44.0
	30	43.6

ε CASSIOPEÆ, (Ref.)

November	5	+62 58 43.4
	29	41.6
	30	42.6

ε CASSIOPEÆ, S. P.

May	19	+62 58 39.1

ξ PISCIUM, 1h. 46m. 18s.

November	12	+ 2 29 42.6
December	22	42.5

O. ARG. S. 1146, 1h. 46m. 20s.

January	20	−26 31 5.5

ι ARIETIS, 1h. 49m. 42s.

October	28	+17 7 58.0
November	4	57.2

WEISSE I, 880, 1h. 50m. 4s.

December	22	+ 9 11 59.3

O. ARG. S. 1181, 1h. 50m. 5s.

		° ′ ″
November	12	−18 41 25.4

50 CASSIOPEÆ, 1h. 51m. 50s.

October	25	+71 44 27.7
December	29	27.5

50 CASSIOPEÆ, (Ref.)

October	25	+71 44 28.2
December	6	29.6
	20	28.1

50 CASSIOPEÆ, S. P.

May	16	+71 44 27.8
June	13	28.7
	15	26.9
	17	29.1

O. ARG. S. 1210, 1h. 52m. 21s.

November	12	−18 44 31.2

O. ARG. S. 1245, 1h. 55m. 1s.

January	20	−26 18 37.3

LACAILLE 607, 1h. 56m. 3s.

October	28	−22 38 28.6
November	4	30.8

O. ARG. S. 1259, 1h. 56m. 22s.

December	23	−24 33 39.5

O. ARG. S. 1261, 1h. 56m. 29s.

October	28	−22 35 12.4

α ARIETIS, 1h. 59m. 17s.

November	5	+22 47 54.9
	23	55.8
	29	55.5
	30	55.8
December	23	55.5

α ARIETIS, (Ref.)

November	5	+22 47 55.2
	29	54.5
	30	55.5

LALANDE 3979, 2h. 2m. 5s.

January	16	−18 26 37.2

η ARIETIS, 2h. 4m. 58s.

October	28	+20 33 6.6
November	4	6.0

WEISSE II, 61, 2h. 5m. 20s.

December	22	+11 12 3.9
	24	4.5

19 ARIETIS, 2h. 5m. 25s.

		° ′ ″
November	23	+14 37 22.

O. ARG. S. 1421, 2h. 8m. 46s.

November	12	−16 37 47.4
	29	47.7

O. ARG. S. 1522, 2h. 16m. 20s.

January	16	−18 59 20.6

ξ ARIETIS, 2h. 17m. 18s.

October	28	+ 9 58 31.1
November	4	30.3

ι CASSIOPEÆ, 2h. 17m. 35s.

November	29	+66 46 12.9
December	24	13.5

ι CASSIOPEÆ, (Ref.)

November	29	+66 46 11.9

ι CASSIOPEÆ, S. P.

May	30	+66 46 12.4
June	13	11.
	20	13.5

O. ARG. S. 1535, 2h. 17m. 48s.

December	3	−18 47 53.
	20	52.

O. ARG. S. 1551, 2h. 19m. 34s.

January	20	−15 58 20.4

ξ² CETI, 2h. 20m. 42s.

November	12	+ 7 49 51.0

ξ² CETI, (Ref.)

November	12	+ 7 49 50.0

B. A. C. 765, 2h. 22m. 4s.

December	6	−34 26 21.4
	20	23.5
	29	24.7

ANONYMOUS, 2h. 24m. 26s.

October	25	−21 42 44.7

σ CETI, 2h. 25m. 26s.

January	11	−15 51 39.2
December	3	39.1
	22	38.4

ANONYMOUS, 2h. 26m. 10s.

January	20	−33 13 34.7

Lacaille 803, 2h. 31m. 23s.

		°	′	″
November	12	−23	36	7.4
	30			8.0
December	3			8.0

δ Ceti, 2h. 32m. 20s.

December	29	− 0	16	38.2

Weisse II, 805, 2h. 33m. 34s.

December	22	+21	38	34.0
	24			33.0

O. Arg. S. 1738, 2h. 34m. 5s.

January	20	−24	44	18.3

γ Ceti, 2h. 36m. 3s.

November	4	+ 2	38	37.6
December	6			38.5

Weisse II, 615, 2h. 36m. 7s.

January	16	+12	41	35.6

η Persei, 2h. 40m. 30s.

November	12	+55	18	40.2

η Persei, (Ref.)

November	12	+55	18	41.6

Weisse II, 702, 2h. 41m. 8s.

January	16	+12	27	1.7

Weisse II, 724, 2h. 42m. 30s.

January	22	+13	7	41.2

Anonymous, 2h. 42s. 43s.

December	6	−34	21	58.1
	20			57.5
	22			57.2

β Fornacis, 2h. 43m. 2s.

January	20	−32	59	44.4

γ Fornacis, 2h. 43m. 40s.

December	29	−25	8	16.5

Weisse II, 746, 2h. 43m. 50s.

January	25	+12	54	48.1

Anonymous, 2h. 47m. 29s.

November	30	−23	43	6.3
December	3			6.4
	14			5.7

O. Arg. S. 1887, 2h. 47m. 59s.

December	22	−23	31	19.5

Weisse II, 841, 2h. 48m. 32s.

		°	′	″
January	16	+13	20	50.0

O. Arg. S. 1910, 2h. 49m. 40s.

November	30	−23	47	16.5

O. Arg. S. 1930, 2h. 51m. 27s.

January	11	−16	24	27.1
December	23			26.4

Lacaille 951, 2h. 53m. 21s.

December	22	−34	44	54.9
	29			56.1

α Ceti, 2h. 54m. 58s.

January	2	+ 3	32	17.7
	8			18.2
November	12			17.0
	23			19.8
December	3			18.1
	6			18.1
	20			18.5

O. Arg. S. 1977, 2h. 55m. 35s.

January	25	−18	45	37.3

Weisse II, 976, 2h. 55m. 47s.

January	20	+13	55	14.2

τ^3 Eridani, 2h. 56m. 12s.

December	14	−24	10	30.3
	23			31.3

Anonymous, 2h. 58m. 37s.

November	30	−26	19	30.8
December	3			31.1

53 Arietis, 2h. 59m. 33s.

November	23	+17	20	16.5

Weisse II, 1069, 3h. 0m. 26s.

January	2	+ 0	51	52.8

Weisse III, 20, 3h. 2m. 52s.

January	9	+11	20	22.2

Weisse III, 36, 3h. 3m. 44s.

December	29	+12	30	52.8

Lacaille 996, 3h. 4m. 24s.

January	25	−24	16	20.7
February	4			21.1
November	30			19.9
December	3			19.5

B. A. C. 1012, 3h. 8m. 58s.

		°	′	″
December	3	−26	37	15.6
	22			14.6

Anonymous, 3h. 9m. 55s.

January	27	+14	34	51.3

Weisse III, 173, 3h. 10m. 44s.

January	27	+14	40	24.5

O. Arg. S. 2173, 3h. 11m. 3s.

December	14	−18	54	20.0

Lacaille 1041, 3h. 11m. 9s.

November	30	−24	2	9.5
December	24			9.8

O. Arg. S. 2189, 3h. 12m. 17s.

February	3	−19	4	11.2
December	14			11.4

τ^4 Eridani, 3h. 13m. 19s.

December	14	−22	16	8.5
	22			7.7

B. A. C. 1039, 3h. 13m. 28s.

December	3	−24	37	54.9
	29			55.7

α Persei, 3h. 14m. 21s.

January	8	+49	21	35.0

Anonymous, 3h. 14m. 22s.

December	29	−24	37	17.9

B. A. C. 1049, 3h. 15m. 17s.

December	20	−24	8	21.7

B. A. C. 1054, 3h. 16m. 8s.

January	11	−26	5	27.4

Anonymous, 3h. 18m. 0s.

December	23	−18	58	15.0
	24			14.4

Lacaille 1113, 3h. 23m. 28s.

November	30	−23	57	38.6
December	3			38.1

Lacaille 1121, 3h. 24m. 45s.

January	11	−28	24	26.2

Lacaille 1124, 3h. 25m. 48s.

		°	′	″
January	22	−26	5	28.0
February	3			26.9
December	14			27.4
	29			28.4

O. Arg. S. 2343, 3h. 26m. 29s.

December	14	−26	8	2.3
	29			2.6

Anonymous, 3h. 29m. 49s.

January	9	−19	0	47.4
	11			49.0

O. Arg. S. 2388, 3h. 29m. 55s.

December	3	−23	58	58.1

B. A. C. 1119, 3h. 31m. 27s.

January	22	+16	4	44.8
	25			42.8

Anonymous, 3h. 31m. 47s.

December	14	−22	33	29.2

δ Persei, 3h. 33m. 0s.

January	8	+47	20	11.3
	29			10.9

δ Persei, (Ref.)

January	29	+47	20	10.3:

Rumker 945, 3h. 35m. 26s.

February	8	+23	55	41.5

O. Arg. S. 2468, 3h. 36m. 2s.

December	3	−23	41	46.2
	22			45.0

Rumker 952, 3h. 36m. 5s.

January	28	+23	41	17.2
February	4			19.0

16 Tauri, 3h. 36m. 29s.

February	3	+23	50	46.1
	8			46.5

17 Tauri, 3h. 36m. 34s.

January	5	+23	40	14.5
	9			13.2
	16			13.8
	26			13.3
	28			11.8
February	4			13.2
	9			13.4
	11			12.9
	12			13.4

1 Pleiadum, 3h. 37m. 8s.

		°	′	″
January	26	+23	35	38.2
	28			37.2
February	4			37.5
	9			37.0
	11			37.1

4 Pleiadum, 3h. 37m. 18s.

February	3	+23	53	40.5

20 Tauri, 3h. 37m. 30s.

February	3	+23	55	38.8
	8			37.2

7 Pleiadum, 3h. 37m. 33s.

January	16	+23	35	55.0
	26			54.2
	28			54.0
February	9			(57.5)
	11			54.2

O. Arg. S. 2488, 3h. 37m. 47s.

December	14	—22	22	54.2

8 Pleiadum, 3h. 37m. 53s.

February	12	+23	45	23.6

8 Pleiadum, (Ref.)

December	24	+23	45	19.2

23 Tauri, 3h. 38m. 2s.

January	5	+23	30	33.6
	9			32.2
	16			32.4
	26			33.1
	28			30.6
February	4			32.3
	9			32.5
	11			31.9

13 Pleiadum, 3h. 38m. 48s.

February	4	+23	33	25.8

O. Arg. S. 2504, 3h. 38m. 49s.

December	23	—23	49	15.4

24 Tauri, 3h. 39m. 2s.

January	12	+23	40	50.4
	16			47.8
February	9			50.7
	11			48.9
	12			48.8

η Tauri, 3h. 39m. 10s.

January	5	+23	40	10.9
	9			10.5
	12			10.4
	16			9.9
	26			10.7
	28			8.7
February	4			9.6
	9			10.9
	11			9.8
	12			10.5
November	30			10.6

η Tauri, (Ref.)

		°	′	″
December	20	+23	40	7.4
	24			8.2
	29			9.5

B. A. C. 1165, 3h. 39m. 10s.

February	3	+23	51	9.0
	8			9.7

Weisse N. III, 878, 3h. 39m. 39s.

January	25	+16	16	8.6

Weisse N. III, 887, 3h. 40m. 0s.

January	29	+16	31	39.5

B. A. C. 1171, 3h. 40m. 10s.

February	3	+23	54	44.8
	8			45.5

τ⁶ Eridani, 3h. 40m. 48s.

December	3	—23	39	57.4
	14			57.3
	23			57.4

27 Tauri, 3h. 40m. 54s.

January	5	+23	37	20.1
	9			20.4
	12			20.9
	16			19.7
	26			19.9
	28			19.1
February	4			20.1
	9			20.1
	11			19.6
	12			21.6

27 Tauri, (Ref.)

December	29	+23	37	20.8

28 Tauri, 3h. 40m. 55s.

January	5	+23	42	22.7
	9			22.0
	12			21.9
	16			21.0
	26			21.5
	28			20.4
February	4			21.0
	9			21.8
	11			21.5
	12			22.1

28 Tauri, (Ref.)

December	24	+23	42	19.1

33 Pleiadum, 3h. 41m. 6s.

February	3	+23	49	2.1

τ⁷ Eridani, 3h. 41m. 38s.

December	22	—24	18	36.0

Lacaille 1231, 3h. 42m. 0s.

		°	′	″
January	11	—26	45	41.1
	29			42.7

B. A. C. 1195, 3h. 42m. 33s.

January	5	+23	32	8.0
	16			6.4
	26			5.9
	28			4.2
February	4			5.9
	9			6.6
	11			6.3

Anonymous, 3h. 43m. 58m.

December	23	—19	10	21.4

B. A. C. 1206, 3h. 45m. 10s.

January	25	+16	54	26.4

ζ Persei, 3h. 45m. 20s.

January	22	+31	27	54.0:

Weisse N. 1015, 3h. 46m. 36s.

January	25	+16	55	38.7

B. A. C. 1211, 3h. 46m. 47s.

January	8	+80	18	15.7
	27			15.8
February	5			16.0

B. A. C. 1211, (Ref.)

January	27	+80	18	14.6
February	5			14.1

B. A. C. 1211, S. P.

June	1	+80	18	14.3
	3			15.2
	16			15.5
	17			16.5

Lacaille 1271, 3h. 47m. 57s.

December	29	—23	32	29.9

Lacaille 1284, 3h. 49m. 37s.

January	11	—26	20	24.0

O. Arg. S. 2663, 3h. 49m. 47s.

February	3	—26	37	30.3
December	14			29.7

B. A. C. 1229, 3h. 49m. 55s.

February	9	—14	0	26.4

Anonymous, 3h. 50m. 46s.

December	23	—18	57	40.1

γ Eridani,—3h. 51m. 30s.

		°	′	″
January	5	—13	54	32.1
February	9			32.4

Anonymous, 3h. 54m. 39s.

December	14	—27	13	58.8

Anonymous, 3h. 55m. 9s.

December	23	—22	40	16.7

Lacaille 1317, 3h. 55m. 28s.

January	25	—26	54	(35.2:)
	28			42.0

A¹ Tauri, 3h. 56m. 26s.

January	8	+21	41	47.4

Lacaille 1329, 3h. 57m. 36s.

January	11	—26	14	7.3
	29			6.1:
February	3			7.6

Anonymous, 3h. 57m. 39s.

January	28	—26	52	5.2

Weisse N. III, 1262, 3h. 58m. 4s.

January	26	+17	16	58.9

Anonymous, 4h. 3m. 45s.

December	3	—19	22	15.5

Weisse N. IV, 65, 4h. 4m. 35s.

January	26	+17	28	16.2

Anonymous, 4h. 4m. 47s.

December	24	—26	58	27.4
	29			27.4

o¹ Eridani, 4h. 5m. 2s.

January	29	— 7	19	17.0

Anonymous, 4h. 7m. 5s.

December	22	—23	29	12.6

ω² Tauri, 4h. 9m. 4s.

February	13	+23	13	48.8

O. Arg. S. 2937, 4h. 9m. 47s.

December	22	—23	35	24.1

O. Arg. S. 2939, 4h. 9m. 50s.

December	3	—22	30	2.3

B. A. C. 1327, 4h. 11m. 34s.

		°	′	″
January	11	−39	13	51.7

γ TAURI, 4h. 11h. 50s.

January	8	+15	17	13.1

WEISSE N. IV, 248, 4h. 12m. 19s.

January	25	+18	24	14.6

ANONYMOUS, 4h. 13m. 18s.

December	24	−23	45	20.2
	29			21.0

WEISSE N. IV, 270, 4h. 13m. 28s.

January	22	+18	4	56.5

δ¹ TAURI, 4h. 14m. 52s.

January	29	+17	12	41.2
February	12			39.6

δ¹ TAURI, (Ref.)

January	29	+17	12	38.1
February	12			39.0

ANONYMOUS, 4h. 17m. 28s.

January	11	−25	42	46.4

WEISSE N. IV, 376, 4h. 17m. 43s.

January	26	+18	32	30.6

O. ARG. S. 3082, 4h. 20m. 35s.

December	22	−23	27	12.1
	24			10.7

O. ARG. S. 3108, 4h. 22m. 19s.

December	22	−23	24	53.5
	24			53.7

LACAILLE 1474, 4h. 23m. 46s.

February	4	−26	35	8.9
December	29			7.8

WEISSE IV, 554, 4h. 26m. 45s.

January	25	+5	16	22.1

LACAILLE 1504, 4h. 26m. 47s.

February	10	−25	30	17.2

LACAILLE 1509, 4h. 27m. 20s.

January	22	−25	51	23.8
February	8			24.3

α TAURI, 4h. 27m. 53s.

		°	′	″
January	5	+16	13	29.5
	12			27.7
	29			28.5
December	12			28.9
	24			29.1

α TAURI, (Ref.)

January	5	+16	13	29.7
	12			27.7
December	24			26.6

LACAILLE 1521, 4h. 29m. 4s.

February	10	−25	19	47.0

ANONYMOUS, 4h. 30m. 39s.

December	22	−26	50	58.6

LACAILLE 1531, 4h. 31m. 0s.

February	11	−27	20	0.8

ANONYMOUS, 4h. 32m. 2s.

December	29	−27	3	43.7

LACAILLE 1540, 4h. 33m. 8s.

February	26	−25	59	0.2

ANONYMOUS, 4h. 33m. 35s.

February	8	+8	0	21.0

LACAILLE 1553, 4h. 35m. 20s.

February	3	−39	4	49.6

ANONYMOUS, 4h. 36m. 29s.

December	24	−23	26	45.6

O. ARG. S. 3325, 4h. 37m. 16s.

December	3	−24	6	42.6
	22			41.8

LACAILLE 1568, 4h. 37m. 48s.

February	3	−39	7	24.5

α CAMELOPARDIS, 4h. 40m. 9s.

January	27	+66	5	57.0
February	12			57.0

α CAMELOPARDIS, (Ref.)

February	12	+66	5	54.6

α CAMELOPARDIS, S. P.

June	16	+66	5	56.5
	17			57.2
	29			57.3

B. A. C. 1482, 4h. 40m. 46s.

		°	′	″
February	9	−28	20	33.0

ANONYMOUS, 4h. 40m. 46s.

February	13	+10	45	58.5

ANONYMOUS, 4h. 40m. 53s.

December	29	+10	42	54.9

O. ARG. S. 3382, 4h. 41m. 4s.

February	10	−26	33	21.3

WEISSE IV, 926, 4h. 43m. 27s.

February	13	+10	49	31.0

LACAILLE 1611, 4h. 43m. 59s.

February	3	−35	20	2.0

ANONYMOUS, 4h. 44m. 41s.

December	22	−23	31	55.6

LACAILLE 1617, 4h. 44m. 43s.

February	3	−35	20	45.7

WEISSE IV, 986, 4h. 45m. 37s.

February	16	+8	19	11.2

WEISSE N. IV, 1047, 4h. 47m. 13s.

November	30	+27	36	37.8
December	24			35.7

WEISSE IV, 1028, 4h. 47m. 19s.

February	13	+8	22	10.2

ι AURIGÆ, 4h. 47m. 53s.

February	26	+32	56	26.8

O. ARG. S. 3488, 4h. 48m. 50s.

February	10	−26	57	29.9

O. ARG. S. 3492, 4h. 49m. 2s.

February	9	−25	52	49.7

B. A. C. 1531, 4h. 49m. 44s.

February	9	−25	57	13.8

β CAMELOPARDIS, 4h. 50m. 59s.

January	27	+60	13	56.8
	29			55.8

β CAMELOPARDIS, (Ref.)

January	27	+60	13	54.3
	29			54.2

β CAMELOPARDIS, S. P.

		°	′	″
June	25	+60	13	56.0

ANONYMOUS, 4h. 54m. 10s.

February	3	−25	16	1.5
	8			2.8

11 ORIONIS, 4h. 56m. 34s.

December	3	+15	12	22.2

11 ORIONIS, (Ref.)

December	3	+15	12	20.4

ε LEPORIS, 4h. 59m. 32s.

February	26	−24	33	39.8:

ANONYMOUS, 4h. 59m. 38s.

December	24	−23	50	26.8
	29			25.9

α AURIGÆ, 5h. 6m. 21s.

January	5	+45	51	3.5
	16			3.4
	25			2.5
February	9			3.8
	11			2.9
	13			2.1

α AURIGÆ, (Ref.)

February	9	+45	51	0.1
	11			1.1
	13			2.0

LACAILLE 1754, 5h. 6m. 42s.

February	8	−37	34	0.2

WEISSE V, 136, 5h. 6m. 45s.

February	16	−8	18	55.7

β ORIONIS, 5h. 7m. 49s.

January	29	−8	21	56.8
February	3			58.2
May	6			58.0

β ORIONIS, (Ref.)

January	29	−8	22	0.3

LACAILLE 1806, 5h. 15m. 14s.

February	8	−29	20	54.0

β TAURI, 5h. 17m. 27s.

January	5	+28	29	7.8
	11			5.9
	25			6.6

β TAURI, (Ref.)

January	11	+28	29	7.2

B. A. C. 1688, 5h. 17m. 31s.

		° ′ ″
February	9	−26 50 22.7

B. A. C. 1706, 5h. 21m. 5s.

December	22	+74 56 32.4

B. A. C. 1706, S. P.

July	2	+74 56 (37.0)
		30.2
August	1	31.3
	3	30.1
	5	

ε ORIONIS, 5h. 29m. 7s.

January	25	− 1 17 38.0
December	29	39.3

ANONYMOUS, 5h. 32m. 47s.

November	30	+21 14 53.3

α ORIONIS, 5h. 47m. 36s.

January	25	+ 7 22 42.5
	26	41.1
	27	40.3
February	24	41.0
May	6	40.9

α ORIONIS, (Ref.)

January	27	+ 7 22 37.8
February	24	39.0

LACAILLE 2122, 5h. 59m. 10s.

February	8	−28 3 12.1

ν ORIONIS, 5h. 59m. 35s.

January	25	+14 46 53.3

ANONYMOUS, 6h. 0m. 46s.

January	28	−23 31 41.1

π¹ COLUMBÆ, 6h. 2m. 17s.

February	17	−42 16 57.3

B. A. C. 1995, 6h. 4m. 58s.

February	26	−27 7 31.8

LACAILLE 2177, 6h. 5m. 52s.

February	26	−27 1 39.3

η GEMINORUM, 6h. 6m. 26s.

January	25	+22 32 38.3

LACAILLE 2189, 6h. 7m. 28s.

February	8	−28 25 45.6

LACAILLE 2190, 6h. 7m. 55s.

		° ′ ″
January	28	−23 49 45.6
February	24	45.0

LACAILLE 2208, 6h. 11m. 23s.

February	24	−24 1 29.2
	26	27.7

μ GEMINORUM, 6h. 14m. 29s.

January	25	+22 34 55.3
February	13	54.5

LACAILLE 2226, 6h. 14m. 44s.

January	28	−23 34 30.4

DORPAT 900, 6h. 16m. 21s.

March	3	+ 4 39 39.0

11 MONOCERATIS, 6h. 22m. 1s.

March	3	− 6 56 45.3

11 MONOCERATIS, (S. *) 6h. 22m. 1s.

March	3	− 6 56 51.0

B. A. C. 2095, 6h. 22m. 20s.

February	24	+79 42 15.1
	26	14.3

B. A. C. 2095, S. P.

July	9	+79 42 14.0
	21	14.4
	23	13.6

γ GEMINORUM, 6h. 29m. 37s.

January	25	+16 30 55.2
March	9	54.5

γ GEMINORUM, (Ref.)

March	9	+16 30 53.9

O. ARG. S. 5343, 6h. 30m. 15s.

January	23	−24 0 23.1

51 (Hev.) CEPHEI, 6h. 33m. 38s.

February	12	+87 14 55.9
	24	55.2

51 (Hev.) CEPHEI, S. P.

October	7	+87 14 52.9

α CANIS MAJORIS, 6h. 38m. 59s.

		° ′ ″
January	23	−16 31 42.4
	25	41.5
	26	41.2
February	8	40.6
	11	41.7
	13	42.1
	16	(44.3)
	18	40.9
	19	41.4
	24	41.5
	26	41.3
March	3	41.5
	9	41.4
	18	42.2
May	31	42.1
June	6	41.7
	16	41.0
	21	40.0
	22	41.3
	28	39.9
July	13	41.3
	15	42.3
	19	41.4
	27	41.3
	28	42.0
August	4	41.7

α CANIS MAJORIS, (Ref.)

March	2	−16 31 43.3
	7	43.6

LACAILLE 2461, 6h. 43m. 46s.

January	23	−23 59 6.8

LACAILLE 2469, 6h. 43m. 54s.

January	23	−23 55 2.2

ε CANIS MAJORIS, 6h. 53m. 7s.

January	25	−28 47 0.6
February	13	2.3

B. A. C. 2298, 6h. 53m. 39s.

February	13	−28 46 21.4

44 GEMINORUM, 6h. 56m. 54s.

December	22	+22 50 38.9

γ CANIS MAJORIS, 6h. 57m. 23s.

February	19	−15 25 44.3

B. A. C. 2326, 7h. 1m. 24s.

February	19	+82 40 5.9
March	2	5.6
	7	5.4

B. A. C. 2326, S. P.

July	23	+82 40 4.7

LACAILLE 2684, 7h. 9m. 53s.

January	23	−23 29 50.2

δ GEMINORUM, 7h.

		° ′ ″
January	25	+22 14 13.3

WEISSE VII, 461, 7h. 15m. 33s.

March	12	−14 49 21.5

LACAILLE 2762, 7h. 16m. 56s.

March	23	−25 44 42.6

ANONYMOUS, 7h. 17m. 15s.

March	12	−14 56 43.7

ANONYMOUS, 7h. 19m. 0s.

March	12	−14 57 51.0

LACAILLE 2792, 7h. 19m. 35s.

January	23	−24 56 36.7

ANONYMOUS, 7h. 19m. 56s.

March	12	−14 41 54.3

ANONYMOUS, 7h. 22m. 58s.

March	12	−14 48 11.7

ANONYMOUS, 7h. 24m. 11s.

January	23	−24 51 25.6

α¹ GEMINORUM, 7h. 25m. 39s.

February	27	+32 11 26.7

α² GEMINORUM, 7h. 25m. 40s.

February	13	+32 11 29.6
	27	29.4

α² GEMINORUM, (Ref.)

February	13	+32 11 29.6

α CANIS MINORIS, 7h. 31m. 58s.

January	23	+ 5 34 46.9
February	27	46.3
March	2	47.7
	3	46.9
June	21	45.1
	28	46.1

α CANIS MINORIS, (Ref.)

March	2	+ 5 34 46.

m PUPPIS, 7h. 32m. 24s.

March	9	−25 2 57.

ANONYMOUS, 7h. 33m. 33s.

March	12	−23 54 39.

ANONYMOUS, 7h. 34m. 6s. :

March	21	−34 29 37.

E 15006, 7h. 34m. 53s.

		°	′	″
March	12 . .	−23	57	4.2

β GEMINORUM, (Ref.) 7h. 36m. 45s.

		°	′	″
February	19 . .	+28	21	39.2

LACAILLE 2929, 7h. 37m. 46s.

		°	′	″
January	23 . .	−25	10	20.0

B. A. C. 2590, S. P., 7h. 42m. 35s.

		°	′	″
October	14 . .	+79	51	7.9

B. A. C. 2606, 7h. 44m. 24s.

		°	′	″
March	2 . .	+47	44	38.4
	3 . .			40.0

O. ARG. N. 8445, 7h. 48m. 23s.

		°	′	″
March	3 . .	+47	10	55.6

O. ARG. N. 8459, 7h. 49m. 31s.

		°	′	″
March	2 . .	+46	59	44.5
	3 . .			43.1

LACAILLE 3086, 7h. 52m. 13s.

		°	′	″
January	25 . .	−42	1	0.6

ANONYMOUS, 7h. 52m. 58s.

		°	′	″
March	9 . .	−37	12	13.8
	21 . .			12.5

6 CANCRI, 7h. 54m. 55s.

		°	′	″
February	27 . .	+28	11	1.0

O. ARG. S. 7865, 7h. 56m. 25s.

		°	′	″
March	12 . .	−25	40	38.0

O. ARG. S. 7882, 7h. 57m. 10s.

		°	′	″
March	5 . .	−24	12	45.8

ANONYMOUS, 7h. 57m. 49s.

		°	′	″
March	12 . .	−25	37	52.8

LACAILLE 3127, 7h. 58m. 39s.

		°	′	″
March	9 . .	−25	18	15.5

55 CAMELOPARDIS, 7h. 58m. 50s.

		°	′	″
February	22 . .	+68	52	51.0

55 CAMELOPARDIS, (Ref.)

		°	′	″
February	22 . .	+68	52	51.0

55 CAMELOPARDIS, S. P.

		°	′	″
August	31 . .	+68	52	49.3
September	28 . .			48.8
October	10 . .			51.0

ρ ARGUS, 8h. 1m. 38s.

		°	′	″
February	27 . .	−23	54	9.9
March	5 . .			9.3

O. ARG. S. 8072, 8h. 2m. 40s.

		°	′	″
March	5 . .	−23	58	50.1

LACAILLE 3168, 8h. 3m. 28s.

		°	′	″
March	9 . .	−37	16	26.9

LACAILLE 3201, 8h. 6m. 55s.

		°	′	″
March	12 . .	−41	22	17.3

O. ARG. S. 8291, 8h. 10m. 5s.

		°	′	″
March	9 . .	−24	48	25.0

λ CANCRI, 8h. 12m. 16s.

		°	′	″
February	27 . .	+24	27	36.3

LACAILLE 3262, 8h. 14m. 2s.

		°	′	″
March	12 . .	−34	9	9.3

B. A. C. 2811, 8h. 16m. 53s.

		°	′	″
January	23 . .	−25	54	5.1

o URSÆ MAJORIS, S. P., 8h. 18m. 36s.

		°	′	″
October	17 . .	+61	10	53.5

B. A. C. 2838, 8h. 20m. 56s.

		°	′	″
March	9 . .	−41	41	50.1

B. A. C. 2843, 8h. 21m. 34s.

		°	′	″
April	6 . .	−31	12	45.6

ANONYMOUS, 8h. 21m. 56s.

		°	′	″
March	21 . .	−34	33	17.9

O. ARG. S. 8654, 8h. 25m. 27s.

		°	′	″
March	21 . .	−25	12	41.4

B. A. C. 2889, (South *) 8h. 28m. 25s.

		°	′	″
March	5 . .	+ 7	6	22.0

B. A. C. 2889, (North *) 8h. 28m. 25s.

		°	′	″
March	5 . .	+ 7	6	31.9

B. A. C. 2899, 8h. 29m. 44s.

		°	′	″
November	12 . .	+19	45	8.8
	15 . .			11.1
	24 . .			10.2

ANONYMOUS, 8h. 32m. 17s.

		°	′	″
November	12 . .	+19	50	29.0
	15 . .			30.1
	24 . .			29.4

WEISSE VIII, 986, 8h. 38m. 15s.

		°	′	″
March	5 . .	− 2	5	39.8

ε HYDRÆ, 8h. 39m. 22s.

		°	′	″
April	7 . .	+ 6	55	48.5

LACAILLE 3509, 8h. 40m. 9s.

		°	′	″
January	23 . .	−26	6	12.2

LACAILLE 3511, 8h. 40m. 25s.

		°	′	″
January	23 . .	−26	7	6.3

LACAILLE 3546, 8h. 43m. 39s.

		°	′	″
March	21 . .	−30	24	51.1

LACAILLE 3552, 8h. 44m. 35s.

		°	′	″
April	6 . .	−29	53	47.7

ANONYMOUS, 8h. 44m. 41s.

		°	′	″
March	21 . .	−41	13	21.0:

17 HYDRÆ, (S. *) 8h. 48m. 38s.

		°	′	″
March	5 . .	− 7	26	17.3

17 HYDRÆ, (N. *) 8h. 48m. 38s.

		°	′	″
March	5 . .	− 7	26	11.7

ι URSÆ MAJORIS, 8h. 49m. 36s.

		°	′	″
January	23 . .	+48	35	17.8
April	7 . .			17.4

ι URSÆ MAJORIS, (Ref.)

		°	′	″
April	7 . .	+48	35	17.6

ANONYMOUS, 8h. 50m. 44s.

		°	′	″
March	21 . .	−29	59	24.8

O. ARG. S. 9276, 8h. 56m. 43s.

		°	′	″
March	21 . .	−30	28	0.4

σ^2 URSÆ MAJORIS, 8h. 58m. 1s.

		°	′	″
February	22 . .	+67	41	56.9

σ^2 URSÆ MAJORIS, S. P.

		°	′	″
August	31 . .	+67	41	53.6
October	7 . .			53.4:
	14 . .			54.3

ANONYMOUS, 9h. 2m. 25s.

		°	′	″
March	5 . .	−23	19	45.1

B. A. C. 3143, 9h. 6m. 12s.

		°	′	″
March	23 . .	−38	41	15.6

LACAILLE 3739, 9h. 9m. 5s.

		°	′	″
March	21 . .	−29	47	25.0

LACAILLE 3796, 9h. 15m. 22s.

		°	′	″
April	6 . .	−30	12	45.1

ANONYMOUS, 9h. 15m. 24s.

		°	′	″
March	23 . .	−34	40	50.1

LACAILLE 3802, 9h. 16m. 45s.

		°	′	″
April	18 . .	−29	55	39.7

1 (Hev.) DRACONIS, 9h. 16m. 48s.

		°	′	″
February	22 . .	+81	56	22.9
March	5 . .			22.3
April	6 . .			22.5
	18 . .			22.7
	19 . .			23.1
	29 . .			22.6

1 (Hev.) DRACONIS, (Ref.)

		°	′	″
February	22 . .	+81	56	21.8

α HYDRÆ, 9h. 20m. 41s.

		°	′	″
April	7 . .	− 8	3	12.5

α HYDRÆ, (Ref.)

		°	′	″
April	7 . .	− 8	3	13.2

d URSÆ MAJORIS, 9h. 22m. 2s.

		°	′	″
April	12 . .	+70	26	32.1

O. ARG. S. 9789, 9h. 24m. 6s.

		°	′	″
April	18 . .	−29	31	55.5

ANONYMOUS, 9h. 26m. 1s.

		°	′	″
March	23 . .	−28	25	40.9

O. ARG. S. 9931, 9h. 31m. 10s.

		°	′	″
March	8 . .	−30	20	32.9
April	13 . .			33.2

ε Leonis, 9h. 37m. 54s.

		°	′	″
March	8	+24	25	1.7
April	7			2.1

ε Leonis, (Ref.)

April	7	+24	25	1.7

Lacaille 3996, 9h. 38m. 32s.

March	23	−38	55	49.8

Anonymous, 9h. 39m. 45s.

April	6	−37	10	4.6

Lacaille 4026, 9h. 42m. 22s.

April	25	−25	45	58.4

Lacaille 4030, 9h. 42m. 33s.

April	6	−36	59	11.4

μ Leonis, 9h. 44m. 48s.

March	21	+26	39	52.4

μ Leonis, (Ref.)

March	21	+26	39	51.0

Anonymous, 9h. 50m. 8s.

March	23	−38	53	19.3
April	18			18.4:
	25			19.4

O. Arg. S. 10236, 9h. 50m. 20s.

March	8	−29	27	31.6

Anonymous, 9h. 54m. 12s.

March	23	−34	38	37.9

Anonymous, 9h. 57m. 46s.

April	25	−38	36	12.2

Weisse IX, 1259, 9h. 59m. 5s.

April	6	+13	27	45.5

Weisse IX, 1279, 10h. 0m. 20s.

April	13	+13	42	10.2

α Leonis, 10h. 0m. 55s.

March	8	+12	39	1.7
	21			0.8
April	7			2.5

α Leonis, (Ref.)

March	21	+12	38	59.9

Weisse X, 94, 10h. 6m. 29s.

		°	′	″
April	23	+12	22	50.4

Weisse X, 116, 10h. 7m. 40s.

April	23	+12	22	4.3

Weisse X, 115, 10h. 7m. 44s.

April	18	+12	34	30.4

32 Ursæ Maj., S. P., 10h. 7m. 49s.

October	12	+65	48	14.2

Anonymous, 10h. 8m. 19s.

April	6	−30	7	23.6

B. A. C. 3495, 10h. 8m. 40s.

April	25	+84	57	32.4

Lalande 19981, 10h. 10m. 19s.

April	23	+11	58	55.9

Weisse X, 209, 10h. 12m. 59s.

April	23	+12	3	16.6

O. Arg. S. 10539, 10h. 13m. 11s.

March	8	−22	16	7.8

O. Arg. S. 10513, 10h. 13m. 35s.

March	8	−22	24	3.1

B. A. C. 3528, 10h. 13m. 38s.

February	22	+83	16	5.1

B. A. C. 3528, S. P.

October	12	+83	16	2.5
	25			2.6
November	1			3.1

B. A. C. 3528, S. P., (Ref.)

November	10	+83	16	3.2

Lacaille 4286, 10h. 18m. 54s.

March	8	−28	29	2.6

45 Leonis, 10h. 20m. 14s.

April	26	+10	28	30.7

B. A. C. 3593, 10h. 23m. 5s.

April	18	+76	25	56.0
May	4			57.2

Lacaille 4340, 10h. 27m. 15s.

April	26	−26	37	39.8

Anonymous, 10h. 28m. 14s.

		°	′	″
April	25	−37	24	23.5

B. A. C. 3627, 10h. 28m. 17s.

April	11	−22	27	17.4

B. A. C. 3638, 10h. 30m. 38s.

April	26	−26	41	17.0

Lacaille 4389, 10h. 33m. 26s.

April	29	−32	53	3.0

Lacaille 4406, 10h. 35m. 13s.

May	4	−25	18	55.2

O. Arg. S. 10840, 10h. 37m. 4s.

April	11	−30	8	1.1

37 Sextantis, 10h. 38m. 48s.

April	26	+ 7	6	38.6

Weisse X, 703, 10h. 40m. 1s.

April	26	+ 7	5	14.7

O. Arg. S. 10912, 10h. 42m. 47s.

April	11	−29	48	43.1

Anonymous, 10h. 43m. 1s.

April	18	−29	15	15.5

O. Arg. S. 10936, 10h. 45m. 36s.

April	19	−29	20	10.6

O. Arg. S. 10941, 10h. 45m. 54s.

April	19	−29	26	21.4

O. Arg. S. 10952, 10h. 46m. 40s.

April	19	−29	21	5.6

O. Arg. S. 10974, 10h. 48m. 12s.

April	11	−29	35	27.7

Lacaille 4516, 10h. 48m. 44s.

April	26	−26	13	56.9

Anonymous, 10h. 52m. 18s.

April	18	−22	30	15.2

β Ursæ Majoris, 10h. 53m. 22s.

October	10	+57	7	54.9

α Ursæ Majoris, 10h. 55m. 3s.

		°	′	″
March	8	+62	30	21.7
April	7			21.8
	19			22.0
October	13			21.4
	16			22.3
	17			21.4

α Ursæ Majoris, (Ref.)

March	8	+62	30	20.9
April	7			22.1

α Ursæ Majoris, S. P.

October	18	+62	30	20.0
	25			20.0
November	19			21.3

Anonymous, 10h. 55m. 8s.

April	11	−33	9	26.4

χ Leonis, 10h. 57m. 47s.

April	26	+ 8	5	33.2

B. A. C. 3792, 10h. 58m. 17s.

April	29	−35	3	3.1

Lacaille 4596, 11h. 0m. 8s.

April	25	−29	47	47.8

Anonymous, 11h. 0m. 29s.

April	21	−28	55	55.7

Lacaille 4614, 11h. 1m. 54s.

April	21	−28	59	21.2

Lacaille 4624, 11h. 3m. 12s.

April	21	−28	50	[illegible]

B. A. C. 3823, 11h. 3m. 13s.

April	21	−29	2	[illegible]

Lacaille 4630, 11h. 3m. 41s.

April	29	−35	14	[illegible]

Lacaille 4638, 11h. 5m. 6s.

April	29	−35	22	[illegible]

δ Leonis, 11h. 6m. 40s.

April	6	+21	[illegible]	[illegible]
	19			[illegible]
	26			[illegible]

Lacaille 4655, 11h. 7m. 6s.

April	29	−35	[illegible]	[illegible]

			°	′	″
Anonymous, 11h. 8m. 55s.	April	28	−37	29	43.4
Lacaille 4672, 11h. 9m. 13s.	April	19	−38	34	2.8
Lacaille 4680, 11h. 10m. 13s.	April	28	−37	38	11.1
Lacaille 4687, 11h. 10m. 52s.	April	19	−32	46	14.3
δ Crateris, 11h. 12m. 21s.	April	26	−14	1	14.7
O. Arg. S. 11311, 11h. 13m. 5s.	March	7	−29	40	51.7
Lacaille 4710, 11h. 13m. 57s.	April	29	−34	58	41.4
Anonymous, 11h. 15m. 37s.	March	23	−38	20	15.1
Lacaille 4725, 11h. 16m. 13s.	May	4	−28	7	44.7
O. Arg. S. 11353, 11h. 16m. 24s.	March	21	−22	56	21.5
83 Leonis, 11h. 19m. 40s.	April	26	+3	46	35.2
τ Leonis, 11h. 20m. 44s.	April	26	+3	37	38.1
Lacaille 4761, 11h. 23m. 25s.	April	28	−25	1	36.6
	May	4			37.3
Lacaille 4766, 11h. 23m. 56s.	April	19	−38	27	59.0
O. Arg. S. 11444, 11h. 24m. 3s.	May	4	−25	7	39.3
B. A. C. 3921, 11h. 25m. 19s.	April	25	−28	29	45.8
B. A. C. 3922, 11h. 25m. 19s.	April	25	−28	29	37.5
υ Leonis, 11h. 29m. 46s.	April	26	−0	3	1.6
Lacaille 4837, 11h. 33m. 5s.	April	19	−37	19	54.6
Anonymous, 11h. 33m. 17s.	April	28	−27	43	12.5
B. A. C. 3975, 11h. 36m. 46s.	April	26	−5	53	54.3
Lacaille 4882, 11h. 39m. 18s.	April	25	−33	58	29.2
Lacaille 4890, 11h. 40m. 17s.	April	29	−29	30	0.9
β Leonis, 11h. 41m. 55s.	March	12	+15	21	17.5
		24			17.5
β Leonis, (Ref.)	March	24	+15	21	16.4
Anonymous, 11h. 44m. 9s.	March	23	−36	9	26.0
B. A. C. 4009, 11h. 44m. 35s.	April	25	−30	2	42.7
Anonymous, 11h. 45m. 14s.	April	28	−36	58	22.4
γ Ursæ Majoris, 11h. 46m. 27s.	March	7	+54	28	23.5
	April	7			24.7
γ Ursæ Majoris, (Ref.)	March	7	+54	28	23.4
	April	7			24.4
B. A. C. 3974, 11h. 46m. 30s.	May	4	−36	24	46.4
Lacaille 4930, 11h. 47m. 10s.	April	29	−35	12	46.0
B. A. C. 4023, 11h. 47m. 26s.	April	28	−36	58	18.3
B. A. C. 4025, 11h. 47m. 42s.	May	4	+0	42	53.0
Anonymous, 11h. 48m. 7s.:	March	2	−7	52	48.9
Lacaille 4948, 11h. 50m. 23s.	April	6	−26	16	26.6
Lacaille 4955, 11h. 51m. 0s.	April	29	−26	54	14.7
Lacaille 4967, 11h. 52m. 13s.	April	25	−29	16	52.2
O. Arg. S. 11831, 11h. 53m. 52s.	May	4	−25	42	1.3
Lacaille 4976, 11h. 54m. 16s.	March	23	−33	16	13.5
	April	23			13.9
Anonymous, 11h. 58m. 1s.	March	23	−33	25	44.4
ο Virginis, 11h. 58m. 5s.	March	7	+9	30	40.8
ο Virginis, (Ref.)	March	7	+9	30	41.1
Lacaille 5016, 11h. 58m. 52s.	April	19	−37	53	43.8
10 Virginis, 12h. 2m. 30s.	May	4	+2	41	3.4
Lacaille 5042, 12h. 2m. 33s.	April	23	−32	42	28.6
Anonymous, 12h. 3m. 41s.:	April	6	−39	47	20.1
4 (Hev.) Draconis, 12h. 5m. 36s.	February	24	+78	23	39.7
	April	21			40.5
		29			39.3
	May	23			39.4
4 (Hev.) Draconis, (Ref.)	April	29	+78	23	39.2
	May	23			37.3
Anonymous, 12h. 6m. 0s.	April	19	−33	20	46.5
δ Ursæ Majoris, 12h. 8m. 29s.	March	7	+57	48	39.6
δ Ursæ Majoris, (Ref.)	March	7	+57	48	39.7
Anonymous, 12h. 8m. 45s.	March	23	−25	47	5.1
Anonymous, 12h. 9m. 37s.	March	23	25	49	6.0
Lacaille 5088, 12h. 10m. 28s.	April	23	−35	18	56.7
13 Virginis, 12h. 11m. 30s.	March	24	−0	0	30.1
	May	4			30.2
η Virginis, 12h. 12m. 45s.	March	24	+0	6	43.1
Anonymous, 12h. 13m. 36s.	March	23	−25	51	32.4
Anonymous, 12h. 14m. 3s.	April	19	−28	56	45.1
Lacaille 5126, 12h. 15m. 54s.	April	21	−36	42	48.1
Lacaille 5131, 12h. 16m. 31s.	April	19	−29	33	29.4
Lalande 23198, 12h. 16m. 44s.	April	23	−25	14	14.3
	May	16			15.1
Lacaille 5143, 12h. 17m. 56s.	April	23	−25	12	43.1
	May	16			44.4
Anonymous, 12h. 22m. 35s.	March	23	−37	33	53.3
20 Comæ, 12h. 22m. 40s.	April	29	+21	40	19.0
20 Comæ, (Ref.)	April	29	+21	40	17.6
Lacaille 5198, 12h. 25m. 28s.	April	21	−29	16	16.6

δ CORVI, 12h. 27m. 2s.

		°	′	″
March	24	−32	37	19.8

LACAILLE 5214, 12h. 28m. 30s.

March	23	−39	5	46.4

ANONYMOUS, 12h. 28m. 40s.

April	19	−32	58	25.8
	23			28.2

f VIRGINIS, 12h. 29m. 35s.

May	7	−5	3	34.5

LACAILLE 5257, 12h. 36m. 5s.

May	20	−25	32	0.4

ANONYMOUS, 12h. 36m. 42s.

March	23	−36	28	4.5

O. ARG. S. 12390, 12h. 37m. 51s.

May	30	−29	0	55.8

ANONYMOUS, 12h. 38m. 2s.

May	5	−37	3	16.1

LALANDE 23832, 12h. 40m. 3s.

May	7	+14	22	55.7

LACAILLE 5295, 12h. 42m. 55s.

April	29	−29	48	51.2

WEISSE XII, 757, 12h. 44m. 41s.

May	5	+0	50	55.9

WEISSE XII, 876, 12h. 45m. 27s.

ay	5	+0	52	22.2

ANONYMOUS, 12h. 46m. 30s.:

April	29	−38	34	47.6

B. A. C. 4342, 12h. 48m. 8s.

June	13	+84	10	27.0
	15			26.6

α CANUM VEN. (1st *) 12h. 49m. 26s.

April	21	+39	4	17.8

α CANUM VEN. (2d *) 12h. 49m. 28s.

April	21	+39	4	31.7
	23			32.1

ANONYMOUS, 12h. 49m. 51s.

		°	′	″
May	30	−32	23	49.7

LACAILLE 5348, 12h. 51m. 18s.

May	20	−29	16	35.0

O. ARG. S. 12615, 12h. 56m. 17s.

May	16	−25	2	58.0

LACAILLE 5405, 13h. 0m. 0s.

May	30	−29	41	6.2

ANONYMOUS, 13h. 3m. 55s.

April	29	−36	39	5.5

LACAILLE 5457, 13h. 7m. 16s.

May	16	−35	37	43.0

O. ARG. S. 12811, 13h. 13m. 27s.

May	5	−21	38	48.2

LACAILLE 5510, 13h. 14m. 47s.

May	5	−25	6	24.7

LALANDE 24816, 13h. 16m. 33s.

May	16	−24	23	52.6

α VIRGINIS, 13h. 17m. 49s.

April	28	−10	25	43.8
	29			45.5
May	20			44.9
	23			42.5:
	30			46.4:
June	10			44.2:
September	1			45.8

α VIRGINIS, (Ref.)

May	20	−10	25	46.0

ζ URSÆ MAJORIS, 13h. 18m. 17s.

June	15	+55	39	26.5

ANONYMOUS, 13h. 21m. 25s.

May	5	−34	50	32.1

LALANDE 24977, 13h. 23m. 23s.

May	16	−24	55	56.9

O. ARG. S. 12920, 13h. 23m. 57s.

June	10	−30	19	55.5

k VIRGINIS, 13h. 25m. 35s.

		°	′	″
April	22	−9	26	31.2
June	3			31.3

ζ VIRGINIS, 13h. 27m. 33s.

May	30	+0	7	16.1

ζ VIRGINIS, (Ref.)

May	30	+0	7	16.2

WEISSE XIII, 461, 13h. 27m. 56s.

April	29	+7	10	17.3

WEISSE XIII, 472, 13h. 28m. 13s.

April	29	+7	13	39.8

B. A. C. 4536, 13h. 28m. 32s.

May	7	+37	54	1.5

ANONYMOUS, 13h. 29m. 30s.

April	28	−35	51	21.2

ANONYMOUS, 13h. 30m. 58s.

May	31	−26	32	47.9

LACAILLE 5625, 13h. 31m. 36s.

May	5	−39	20	14.3

LACAILLE 5655, 13h. 35m. 7s.:

April	22	−29	28	28.0

o VIRGINIS, 13h. 36m. 1s.

May	7	+4	14	50.5

ANONYMOUS, 13h. 36m. 10s.

April	28	−35	51	8.4

LACAILLE 5663, 13h. 37m. 0s.

April	29	−24	47	40.3

LACAILLE 5676, 13h. 38m. 48s.

May	5	−35	32	57.2

ANONYMOUS, 13h. 40m. 53s.

June	10	−30	0	40.5

LACAILLE 5686, 13h. 41m. 8s.

April	28	−27	39	57.2

ANONYMOUS, 13h. 41m. 32s.

June	3	−35	54	28.3

η URSÆ MAJORIS, 13h. 42m. 1s.

		°	′	″
April	21	+50	0	48.2
May	30			45.4

η URSÆ MAJORIS, (Ref.)

April	21	+50	0	47.7
May	30			47.6

LACAILLE 5692, 13h. 42m. 1s.

June	15	−27	29	13.2

O. ARG. S. 13177, 13h. 42m. 59s.

April	28	−27	36	38.1

O. ARG. S. 13182, 13h. 43m. 7s.

April	28	−27	33	46.4

LACAILLE 5710, 13h. 43m. 40s.

April	29	−23	41	1.8
May	5			1.4

LACAILLE 5754, 13h. 47m. 54s.

June	3	−29	53	22.4

η BOOTIS, 13h 48m. 1s.

May	5	+19	6	4.1

LALANDE 25635, 13h. 49m. 41s.

April	22	−22	20	12.3

ANONYMOUS, 13h. 49m. 54s.

June	3	−30	16	41.8
	10			35.5

LACAILLE 5773, 13h. 50m. 5s.

May	20	−25	18	46.8

LACAILLE 5774, 13h. 50m. 10s.

May	30	−29	3	27.5

ANONYMOUS, 13h. 54m. 6s.

April	22	−35	30	1.9

ANONYMOUS, 14h. 0m. 12s.

June	13	−32	23	5.5

α DRACONIS, 14h. 0m. 36s.

May	20	+65	2	46.3
	30			44.0

α DRACONIS, (Ref.)

May	20	+65	2	47.1
June	3			47.3

α DRACONIS, S. P.

		°	′	″
January	20 . .	+65	2	44.1
	22 . .			41.4
November	12 . .			45.3
December	6 . .			45.1
	20 . .			43.6
	22 . .			46.5

LACAILLE 5838, 14h. 2m. 17s.

		°	′	″
May	16 . .	−29	25	25.1

d BOOTIS, 14h. 3m. 58s.

		°	′	″
May	19 . .	+25	45	24.6

LACAILLE 5855, 14h. 4m. 30s.

		°	′	″
June	10 . .	−23	41	8.7

κ VIRGINIS, 14h. 5m. 26s.

		°	′	″
May	7 . .	− 9	37	13.9

α BOOTIS, 14h. 9m. 17s.

		°	′	″
April	22 . .	+19	54	38.8
May	20 . .			38.6
	21 . .			(32.2)
October	7 . .			38.6

α BOOTIS, (Ref.)

		°	′	″
April	22 . .	+19	54	37.7
May	20 . .			38.8
	31 . .			37.4

4 URSÆ MINORIS, 14h. 9m. 26s.

		°	′	″
May	16 . .	+78	12	19.8
	30 . .			17.6
June	3 . .			17.0
	6 . .			15.4
	10 . .			19.2
	13 . .			18.3

4 URSÆ MINORIS, (Ref.)

		°	′	″
May	30 . .	+78	12	22.2
June	15 . .			20.2

4 URSÆ MINORIS, S. P.

		°	′	″
January	20 . .	+78	12	16.7

ι BOOTIS, 14h. 11m. 5s.

		°	′	″
June	7 . .	+52	0	50.3

λ VIRGINIS, 14h. 11m. 32s.

		°	′	″
May	7 . .	−12	43	31.7

LACAILLE 5910, 14h. 13m. 58s.

		°	′	″
June	17 . .	−27	39	53.7

ANONYMOUS, 14h. 14m. 28s.

		°	′	″
May	27 . .	−35	20	17.5

O. ARG. S. 13629, 14h. 19m. 22s.

		°	′	″
May	20 . .	−27	16	19.3:
June	17 . .			15.9

O. ARG. S. 13647, 14h. 20m. 27s.

		°	′	″
May	20 . .	−27	17	22.2
June	17 . .			19.6

LACAILLE 5956, 14h. 21m. 29s.

		°	′	″
June	10 . .	−25	23	7.3

LACAILLE 5977, 14h. 23m. 59s.

		°	′	″
June	20 . .	−27	4	58.2

O. ARG. S. 13711, 14h. 24m. 52s.

		°	′	″
May	16 . .	−30	5	35.3

ρ BOOTIS, 14h. 25m. 48s.

		°	′	″
May	7 . .	+30	59	14.2

5 URSÆ MINORIS, 14h. 27m. 52s.

		°	′	″
May	17 . .	+76	19	5.2
	30 . .			4.1
June	3 . .			5.8
	10 . .			6.6
	15 . .			5.9

5 URSÆ MINORIS, (Ref.)

		°	′	″
May	20 . .	+76	19	6.5
	30 . .			9.5
June	3 . .			8.6
	15 . .			6.8

5 URSÆ MINORIS, S. P.

		°	′	″
January	22 . .	+76	19	4.9
	25 . .			4.7
December	6 . .			5.8
	20 . .			5.3
	24 . .			4.1

O. ARG. S. 13757, 14h. 29m. 0s.

		°	′	″
June	20 . .	−25	11	7.1

LACAILLE 6035, 14h. 31m. 51s.

		°	′	″
May	31 . .	−26	31	30.6
June	13 . .			29.5

LACAILLE 6042, 14h. 32m. 16s.

		°	′	″
May	16 . .	−25	39	1.1

B. A. C. 4842, 14h. 33m. 8s.

		°	′	″
May	27 . .	−37	11	23.9

LACAILLE 6060, 14h. 34m. 15s.

		°	′	″
June	10 . .	−27	11	8.9

ANONYMOUS, 14h. 37m. 1s.:

		°	′	″
June	17 . .	−25	13	60.2
	20 . .			59.7

108 VIRGINIS, 14h. 38m. 22s.

		°	′	″
May	7 . .	+ 1	18	36.0

56 HYDRÆ, 14h. 39m. 36s.

		°	′	″
June	3 . .	−25	59	52.7
	20 . .			53.0

B. A. C. 4888, 14h. 41m. 7s.

		°	′	″
May	27 . .	−23	39	56.0

LACAILLE 6109, 14h. 41m. 25s.:

		°	′	″
May	16 . .	−31	50	25.4

ANONYMOUS, 14h. 41m. 26s.

		°	′	″
June	10 . .	−36	48	36.3

α LIBRÆ, 14h. 43m. 10s.

		°	′	″
May	4 . .	−15	27	26.4
	20 . .			26.3
June	3 . .			27.2
	17 . .			25.2

α LIBRÆ, (Ref.)

		°	′	″
May	31 . .	−15	27	27.6

LACAILLE 6137, 14h. 46m. 10s.

		°	′	″
June	16 . .	−32	43	34.5

O. ARG. S. 14046, 14h. 47m. 0s.

		°	′	″
May	30 . .	−28	57	39.5

LACAILLE 6162, 14h. 48m. 52s.

		°	′	″
May	16 . .	−28	35	21.6

β URSÆ MINORIS, 14h. 51m. 9s.

		°	′	″
May	17 . .	+74	43	38.0
	20 . .			39.6
June	15 . .			41.8
	20 . .			37.6
October	14 . .			40.4

β URSÆ MINORIS, (Ref.)

		°	′	″
May	20 . .	+74	43	40.9
June	15 . .			39.5
	20 . .			43.1

β URSÆ MINORIS, S. P.

		°	′	″
January	22 . .	+74	43	38.1
	29 . .			38.2
February	3 . .			39.0

β URSÆ MINORIS, S. P., (Ref.)

		°	′	″
December	24 . .	+74	43	38.7

B. A. C. 4937, 14h. 51m. 44s.

		°	′	″
May	7 . .	+50	12	6.3

WEISSE N. 1154, 14h. 52m. 57s.

		°	′	″
June	21 . .	+43	58	31.3

LACAILLE 6198, 14h. 54m. 27s.

		°	′	″
May	4 . .	−32	5	15.9

20 LIBRÆ, 14h. 55m. 54s.

		°	′	″
May	30 . .	−24	43	44.9
June	13 . .			43.3

O. ARG. S. 14257, 14h. 58m. 48s.

		°	′	″
May	16 . .	−28	57	33.9

B. A. C. 4982, 14h. 59m. 56s.

		°	′	″
May	27 . .	+83	4	60.9
June	10 . .			61.2
	17 . .			59.4
	20 . .			58.7

B. A. C. 4982, S. P.

		°	′	″
December	6 . .	+83	4	59.8
	22 . .			61.4
	24 . .			59.1

O. ARG. S. 14278, 15h. 0m. 17s.

		°	′	″
May	16 . .	−23	49	27.0
June	3 . .			27.7

O. ARG. S. 14279, 15h. 0m. 19s.

		°	′	″
June	13 . .	−21	33	20.4

O. ARG. S. 14289, 15h. 0m. 41s.

		°	′	″
May	30 . .	−25	57	27.5

WEISSE XIV, 1149, 15h. 1m. 20s.

		°	′	″
July	5 . .	−11	15	3.9

2 LUPI, 15h. 9m. 17s.

		°	′	″
May	16 . .	−29	37	50.3
	27 . .			(60.9)
	30 . .			52.2

O. ARG. S. 14421, 15h. 9m. 26s.

		°	′	″
May	4 . .	−29	57	34.9

O. ARG. S. 14435, 15h. 10m. 16s.

		°	′	″
June	13 . .	−30	18	32.3

B. A. C. 5039, 15h. 10m. 58s.

° ′ ″
June 15 . . —23 45 1.0

B. A. C. 5041, 15h. 11m. 29s.

June 15 . . —23 45 21.8

5 Serpentis, 15h. 12m. 10s.

June 21 . . + 2 17 50.0

O. Arg. S. 14487, 15h. 13m. 56s.

May 4 . . —29 52 24.4

O. Arg. S. 14511, 15h. 15m. 20s.

June 25 . . —26 27 29.3

11 Ursæ Min., S. P., 15h. 17m. 15s.

December 6 . . +72 19 53.6

γ² Ursæ Minoris, 15h. 20m. 59s.

June 13 . . +72 19 55.9
17 . . 54.8
20 . . 53.7

γ² Ursæ Minoris, (Ref.)

June 20 . . +72 19 57.8

γ² Ursæ Minoris, S. P.

January 8 . . +72 19 54.1
25 . . 53.8
December 6 . . 54.4
22 . . 56.7

ι Draconis, 15h. 21m. 39s.

June 22 . . +59 27 22.7

ι Draconis, S. P.

February 3 . . +59 27 26.1

O. Arg. S. 14624, 15h. 24m. 2s.

June 21 . . —21 29 8.3

B. A. C. 5110, 15h. 24m. 47s.

July 6 . . —25 19 19.0

Weisse 444, 15h. 24m. 44s.

June 3 . . — 9 6 25.2
July 5 . . 24.6

O. Arg. S. 14674, 15h. 27m. 20s.

June 25 . . —24 40 42.4

Anonymous, 15h. 27m. 45s.

July 6 . . —23 43 46.9

α Cor. Borealis, 15h. 28m. 46s.

° ′ ″
June 15 . . +27 11 15.0

α Coronæ Borealis, (Ref.)

June 15 . . +27 11 19.4

B. A. C. 5145, 15h. 29m. 8s.

June 16 . . —25 48 47.4
17 . . 46.7

B. A. C. 5149, 15h. 29m. 48s.

June 20 . . —27 44 31.3

40 Libræ, 15h. 30m. 4s.

June 21 . . —29 18 47.7

Anonymous, 15h. 31m. 0s.

May 16 . . —38 14 58.5

Anonymous, 15h. 33m. 16s.

June 3 . . —39 31 27.9

κ Libræ, 15h. 33m. 53s.

June 1 . . —19 13 16.1
13 . . 18.0

η Libræ, 15h. 36m. 12s.

June 21 . . —25 13 22.1

α Serpentis, (Ref.,) 15h. 37m. 22s.

June 25 . . + 6 52 7.2

O. Arg. S. 14839, 15h. 37m. 30s.

June 3 . . —22 18 35.6
17 . . 33.8

Anonymous, 15h. 39m. 3s.

June 13 . . —19 10 14.6

Anonymous, 15h. 39m. 23s.

June 20 . . —20 47 43.7

B. A. C. 5211, 15h. 39m. 43s.

June 13 . . —25 32 59.4

B. A. C. 5220, 15h. 40m. 11s.

May 4 . . —23 23 51.9
20 . . 53.0

B. A. C. 5228, 15h. 42m. 11s.

June 17 . . —25 51 31.9

B. A. C. 5240, 15h. 43m. 35s.

° ′ ″
June 21 . . —29 27 28.4

ε Serpentis, 15h. 43m. 50s.

June 15 . . + 4 54 7.3

ε Serpentis, (Ref.)

June 15 . . + 4 54 4.7

Anonymous, 15h. 44m. 40s.

July 16 . . —25 31 14.0

Anonymous, 15h. 45m. 9s.

June 22 . . —21 32 57.6
July 13 . . 55.8

Lacaille 6582, 15h. 46m. 57s.

June 20 . . —39 26 54.7

B. A. C. 5265, 15h. 47m. 5s.

June 7 . . —25 51 0.7

ζ Ursæ Minoris, S. P., 15h. 49m. 8s.

December 3 . . +78 13 23.7
24 . . 23.2

π Scorpii, 15h. 50m. 26s.

June 13 . . —25 42 22.4

δ Scorpii, 15h. 52m. 4s.

May 30 . . —22 13 10.9
June 15 . . 9.9

O. Arg. S. 15112, 15h. 52m. 47s.

July 13 . . —23 52 1.6

B. A. C. 5308, 15h. 54m. 0s.

June 21 . . —28 44 24.0

O. Arg. S. 15194, 15h. 57m. 15s.

June 20 . . —23 50 8.0
July 6 . . 9.0

β Scorpii, 15h. 57m. 18s.

June 10 . . —19 25 11.1

β Scorpii, (Ref.)

June 10 . . —19 25 14.3
25 . . 11.7

B. A. C. 5335, 15h. 57m. 47s.

June 17 . . —23 13 15.2

B. A. C. 5345, 15h. 59m. 28s.

June 3 . . —24 4 58.2

O. Arg. S. 15271 16h. 0m. 19s.

° ′ ″
July 6 . . —29 52 58.2

B. A. C. 5354, 16h. 0m. 26s.

June 13 . . —23 18 27.

B. A. C. 5364, 16h. 1m. 45s.

June 15 . . —26 32 6.3
20 . . 8.1

c² Scorpii, 16h. 3m. 43s.

June 1 . . —27 33 22.0

ν Scorpii, 16h. 3m. 53s.

June 3 . . —19 5 37.5

O. Arg. S. 15388, 16h. 5m. 8s.

July 5 . . —29 50 55.5

B. A. C. 5394, 16h. 5m. 22s.

July 13 . . —24 3 35.6

B. A. C. 5395, 16h. 5m. 29s.

June 7 . . —21 2 20.0
15 . . 18.3

O. Arg. S. 15403, 16h. 5m. 40s.

July 6 . . —23 24 47.6
8 . . 47.4

B. A. C. 5406, S. P., 16h. 5m. 57s.

January 22 . . +68 10 45.1
27 . . 42.7

δ Ophiuchi, 16h. 7m. 1s.

July 14 . . — 3 19 50.7

δ Ophiuchi, (Ref.)

June 16 . . — 3 19 46.6

B. A. C. 5421, 16h. 8m. 12s.

June 13 . . —29 23 26.5

Lacaille 6765, 16h. 8m. 23s.

June 1 . . —34 28 12.6

O. Arg. S. 15466, 16h. 8m. 46s.

June 15 . . —20 57 4.6

Lacaille 6774, 16h. 9m. 12s.

June 1 . . —34 33 35.6

Anonymous, 16h. 10m. 16s.

June 20 . . —30 9 7.4

Anonymous, 16h. 10m. 19s.

		°	′	″
June	3	—30	4	44.5
	20			44.5

Anonymous, 16h. 11m. 11s.

June	1	—34	33	35.6

19 Scorpii, 16h. 12m. 16s.

June	13	—23	49	41.0

σ Scorpii, 16h. 12m. 43s.

June	21	—25	15	8.6

Lacaille 6806, 16h. 14m. 0s.:

June	1	—34	35	20.3

O. Arg. S. 15566, 16h. 14m. 32s.

July	2	—22	47	2.7
	8			1.6

ψ Ophiuchi, 16h. 15m. 57s.

June	17	—19	42	20.8

B. A. C. 5464, (South *) 16h. 15m. 53s.

July	13	—29	22	22.2

B. A. C. 5464, (North *) 16h. 15m. 53s.

July	13	—29	22	14.2

O. Arg. S. 15612, 16h. 17m. 0s.

June	13	—24	8	19.2

B. A. C. 5476, 16h. 17m. 4s.

July	5	—29	35	45.5

ρ Ophiuchi, (South *) 16h. 17m. 13s.

June	15	—23	7	13.3
July	6			15.6

ρ Ophiuchi, (North *) 16h. 17m. 14s.

June	15	—23	7	9.7
July	6			11.0

B. A. C. 5487, 16h. 18m. 48s.

June	22	—28	58	4.3

Anonymous, 16h. 20m. 34.

July	9	—24	12	56.7

α Scorpii, 16h. 20m. 50s.

June	20	—26	7	3.7
	21			0.8
July	4			3.7
	6			3.1
	8			2.3

α Scorpii, (Ref.)

		°	′	″
June	20	—26	7	4.1

η Ursæ Minoris, 16h. 21m. 39s.

June	1	+76	4	35.5
	17			34.9
	25			33.8
July	11			36.3

η Ursæ Minoris, S. P., 16h. 21m. 39s.

January	22	+76	4	35.0
	27			32.8
December	3			34.0

η Draconis, 16h. 22m. 7s.

July	14	+61	49	55.6

η Draconis, (Ref.)

July	14	+61	49	55.4

O. Arg. S. 15725, 16h. 25m. 26s.

June	3	—23	59	24.2

ζ Ophiuchi, 16h. 29m. 29s.

June	15	—10	16	46.3
	17			48.4

O. Arg. S. 15784, 16h. 29m. 59s.

June	13	—22	36	19.5
July	8			18.8

O. Arg. S. 15788, 16h. 30m. 7s.

June	3	—23	50	46.0

B. A. C. 5556, 16h. 30m. 26s.

July	13	—29	38	29.7

Lacaille 6925, 16h. 31m. 28s.

June	16	—28	39	33.0

B. A. C. 5571, 16h. 33m. 9s.

June	15	—24	11	31.0
July	2			32.8
	6			32.9

Anonymous, 16h. 33m. 48s.

June	22	—38	40	19.3

Anonymous, 16h. 35m. 13s.

June	13	—39	7	27.7

O. Arg. S. 15881, 16h. 35m. 24s.

June	17	—20	25	39.6
July	5			39.7
	8			38.6

15 Ophiuchi, 16h. 36m. 45s.

		°	′	″
June	25	—22	55	8.7

O. Arg. S. 15950, 16h. 39m. 11s.

June	15	—28	42	3.6

Lacaille 6987, 16h. 40m. 12s.

July	16	—33	45	48.9

B. A. C. 5641, 16h. 42m. 51s.

July	9	—24	35	23.6

O. Arg. S. 16045, 16h. 44m. 9s.

July	13	—19	6	54.4

O. Arg. S. 16047, 16h. 44m. 17s.

June	13	—30	11	27.0

Weisse XVI, 845, 16h. 44m. 23s.

July	5	— 8	37	23.5

Weisse XVI, 854, 16h. 44m. 48s.

July	2	— 5	32	55.8

B. A. C. 5663, 16h. 45m. 12s.

June	15	—20	10	36.8

22 Ophiuchi, 16h. 46m. 23s.

July	14	—23	16	41.3

O. Arg. S. 16100, 16h. 46m. 43s.

August	1	—29	2	44.3

24 Ophiuchi, 16h. 48m. 23s.

June	17	—22	55	26.6

Weisse 958, 16h. 50m. 56s.

July	9	— 4	7	21.7
August	1			22.1

κ Ophiuchi, 16h. 51m. 3s.

August	3	+ 9	35	44.9

30 Ophiuchi, 16h. 53m. 40s.

July	9	— 4	0	33.8
	26			32.3

O. Arg. S. 16235, 16h. 53m. 46s.

July	4	—20	23	10.3

B. A. C. 5730, 16h. 55m. 1s.

June	17	—24	2	11.3
July	2			12.1

O. Arg. S. 16256, 16h. 55m. 7s.

		°	′	″
July	30	—19	17	11.5

Anonymous, 16h. 55m. 59s.

July	5	—28	42	48.6
August	1			47.2

O. Arg. S. 16291, 16h. 56m. 0s.

June	22	—20	17	37.0

B. A. C. 5768, 16h. 59m. 55s.

June	22	—30	12	47.4

ε Ursæ Minoris, 17h. 0m. 27s.

June	16	+82	15	41.7
July	6			42.4
	13			40.5
August	3			42.4

ε Ursæ Minoris, S. P.

January	11	+82	15	36.2
	27			38.8
February	3			40.9
	10			40.3
	12			38.7
	24			38.6

B. A. C. 5782, 17h. 2m. 39s.

June	25	—39	19	37.8
July	9			36.4

Weisse XVII, 46, 17h. 4m. 19s.

July	16	— 4	27	54.3
August	1			55.2

Anonymous, 17h. 4m. 49s.

July	2	—39	35	48.4

B. A. C. 5809, 17h. 6m. 58s.

July	30	—30	2	41.5

α Herculis, 17h. 8m. 16s.

July	13	+14	33	10.5
	14			11.3

α Herculis, (Ref.)

July	5	+14	33	10.8
	14			10.6

B. A. C. 5833, 17h. 10m. 16s.

July	9	—31	12	25.1

ξ Ophiuchi, 17h. 12m. 38s.

July	30	—20	57	32.3
August	5			32.2

ANONYMOUS, 17h. 14m. 18s.

		° ′ ″
August	1	—31 33 37.3

ANONYMOUS, 17h. 14m. 45s.

June	25	—22 52 10.8
July	16	11.5

O. ARG. S. 16710, 17h. 15m. 31s.

June	29	—30 23 32.8

LACAILLE 7268, 17h. 15m. 47s.

June	22	—34 33 41.4
July	2	41.8

ANONYMOUS, 17h. 15m. 55s.

July	2	—34 25 41.5

B. A. C. 5892, 17h. 19m. 42s.

July	5	—31 15 41.7
	9	42.7
	13	43.7

O. ARG. S. 16844, 17h. 21m. 28s.

July	14	—19 21 22.2

β DRACONIS, (Ref.,) 17h. 27m. 16s.

July	16	+52 24 24.4

α OPHIUCHI, 17h. 28m. 26s.

January	24	+12 39 56.0
	26	54.7
July	29	54.8

α OPHIUCHI, (Ref.)

July	29	+12 39 53.0

B. A. C. 5943, 17h. 28m. 55s.

July	9	—28 20 46.6

ANONYMOUS, 17h. 29m. 12s.

June	25	—20 35 54.9

B. A. C. 5946, 17h. 29m. 24s.

July	5	—27 57 24.5
	14	23.6
	23	25.0

O. ARG. S. 17016, 17h. 30m. 24s.

June	29	—26 50 53.4
July	2	56.8

B. A. C. 5966, 17h. 31m. 56s.

July	30	—27 48 41.9

ANONYMOUS, 17h. 33m. 18s.

July	14	—34 14 37.4

O. ARG. S. 17091, 17h. 33m. 50s.

		° ′ ″
July	25	—23 16 34.0
August	3	34.7

ANONYMOUS, 17h. 34m. 30s.

July	14	—34 22 47.3

ANONYMOUS, 17h. 35m. 5s.

July	5	—31 12 18.6

B. A. C. 5989, 17h. 35m. 46s.

August	5	—23 36 37.6

ω DRACONIS, 17h. 37m. 47s.

July	26	+68 49 22.9
August	3	22.1
	9	23.6

ω DRACONIS, S. P.

February	8	+68 49 20.3
	24	20.3

β SAGITTARII, 17h. 38m. 46s.

July	30	—27 46 22.6

O. ARG. S. 17209, 17h. 39m. 12s.

July	23	—20 46 48.7

B. A. C. 6015, 17h. 39m. 43s.

July	25	—26 55 13.4

B. A. C. 6016, 17h. 40m. 6s.

July	2	—31 39 3.5

B. A. C. 6017, 17h. 40m. 18s.

June	29	—30 32 38.8

B. A. C. 6023, 17h. 41m. 25s.

July	5	—24 9 24.8
August	5	25.0

B. A. C. 6029, 17h. 42m. 57s.

June	22	—34 45 22.9

ANONYMOUS, 17h. 43m. 3s.

July	29	—28 34 44.8

B. A. C. 6032, 17h. 43m. 17s.

June	25	—31 17 8.1

ψ¹ DRACONIS, 17h. 44m. 26s.

July	21	+72 12 57.7
August	1	59.1

ψ¹ DRACONIS, (Ref.)

		° ′ ″
August	1	+72 12 57.6

ψ¹ DRACONIS, S. P.

February	8	+72 12 55.9
	26	57.3

B. A. C. 6043, 17h. 44m. 38s.

June	22	—34 42 56.1

B. A. C. 6046, 17h. 45m. 10s.

July	9	—34 25 55.0
August	3	50.9

O. ARG. S. 17340, 17h. 46m. 19s.

July	30	—20 58 49.5

O. ARG. S. 17379, 17h. 48m. 13s.

July	2	—27 6 38.9

ANONYMOUS, 17h. 49m. 35s.

July	5	—38 33 12.9

ANONYMOUS, 17h. 50m. 12s.

July	6	—31 25 28.6

ξ DRACONIS, 17h. 51m. 6s.

August	4	+56 53 45.0

ξ DRACONIS, S. P.

February	26	+56 53 42.5

B. A. C. 6081, 17h. 51m. 42s.

June	25	—20 19 27.4

ANONYMOUS, 17h. 51m. 54s.

July	30	—38 4 14.8

γ DRACONIS, 17h. 53m. 21s.

July	29	+51 30 24.1

γ DRACONIS, (Ref.)

July	29	+51 30 25.3

O. ARG. S. 17506, 17h. 53m. 57s.

July	23	—23 1 27.1

ANONYMOUS, 17h. 55m. 26s.

July	9	—22 49 38.5

35 DRACONIS, 17h. 55m. 43s.

		° ′ ″
June	22	+76 58 41.6
July	2	38.8

35 DRACONIS, S. P.

February	10	+76 58 43.1
	24	42.1

O. ARG. S. 17681, 18h. 0m. 8s.

July	23	—21 16 3.0

O. ARG. S. 17728, 18h. 1m. 22s.

July	28	—19 22 32.7

B. A. C. 6160, 18h. 3m. 6s.

July	30	—28 55 35.4

B. A. C. 6161, 18h. 3m. 11s.

July	16	—23 43 31.3

μ SAGITTARII, 18h. 5m. 22s.

June	25	—21 5 27.9
July	9	28.9

15 SAGITTARII, 18h. 6m. 55s.

June	22	—20 45 59.6

17 SAGITTARII, 18h. 8m. 18s.

June	22	—20 35 10.7

B. A. C. 6190, 18h. 8m. 33s.

July	23	—28 41 44.3

O. ARG. S. 17975, 18h. 9m. 5s.

July	16	—23 28 3.0

B. A. C. 6220, 18h. 13m. 10s.

July	28	—28 29 22.5

B. A. C. 6222, 18h. 13m. 34s.

July	30	—22 58 54.3

ANONYMOUS, 18h. 15m. 20s.

June	25	—38 38 36.0

B. A. C. 6236, 18h. 15m. 31s.

June	16	—32 21 35.0
	20	32.2

O. ARG. S. 18198, 18h. 17m. 17s.

August	30	—21 6 35.3

δ URSÆ MINORIS, 18h. 17m. 31s.

		°	′	″
February	23	+86	36	7.9
July	6			7.8
August	3			7.5
	5			8.6
	9			8.3
	12			8.3
	15			9.0
	23			7.6
	29			8.0
October	11			8.0
	17			8.7

δ URSÆ MINORIS, (Ref.)

August	1	+86	36	7.4
	15			7.5

δ URSÆ MINORIS, S. P.

January	27	+86	36	7.3
February	8			6.0
	10			6.9
	24			6.1
March	9			6.0
	18			6.5

δ URSÆ MINORIS, S. P., (Ref.)

January	27	+86	36	7.8
March	9			6.9

B. A. C. 6249, 18h. 17m. 41s.

July	25	−30	27	59.2

ANONYMOUS, 18h. 18m. 10s.

June	25	−29	29	50.5

λ SAGITTARII, 18h. 18s. 22s.

July	5	−25	29	40.9

23 SAGITTARII, 18h. 21m. 59s.

July	11	−23	20	21.9

ANONYMOUS, 18h. 22m. 5s.

June	20	−32	22	40.8

24 URSÆ MINORIS, 18h. 22m. 32s.

September	27	+86	58	47.1
October	7			47.3

O. Arg. S. 18315, 18h. 22m. 37s.

August	5	−21	36	59.4

B. A. C. 6292, 18h. 23m. 7s.

July	30	−18	59	35.4

B. A. C. 6301, 18h. 24m. 16s.

July	30	−19	4	7.2

B. A. C. 6310, 18h. 25m. 17s.

		°	′	″
July	8	−30	59	0.5
	11			0.0

1 AQUILÆ, 18h. 27m. 34s.

July	27	− 8	20	18.5
October	11			19.5

ANONYMOUS, 18h. 29m. 20s.

July	29	−23	30	40.4

ANONYMOUS, 18h. 29m. 40s.

July	25	−23	30	39.8

ANONYMOUS, 18h. 30m. 21s.

June	20	−32	9	8.9

B. A. C. 6346, 18h. 30m. 32s.

July	25	−23	17	59.7
	29			60.5

α LYRÆ, 18h. 32m. 12s.

January	24	+38	39	22.8
	26			21.8
	28			21.5
February	4			21.4
	23			21.0
May	30			20.0
	31			19.8
June	3			20.8
	7			23.4
	22			22.2
	24			20.7
	29			21.8
July	2			21.3
	5			21.6
	6			21.0
	8			21.4
	9			21.8
	11			21.3
	16			20.5
	21			20.7
	22			20.0
	23			20.6
	27			22.1
August	3			21.0
	5			21.2
	9			21.5
	12			21.7
	15			21.4
	23			20.9
	29			21.1
September	27			21.0
October	7			21.4
	10			21.3
	11			20.7
	13			21.0
	14			21.0
	17			21.4
	19			20.9
	21			20.9
	28			21.7
November	10			22.0
	11			21.8
	14			20.2
	25			21.9
December	12			21.7

ANONYMOUS, 18h. 32m. 55s.

		°	′	″
June	27	−31	36	14.8

LACAILLE 7823, 18h. 33m. 12s.

July	25	−39	24	51.6

O. ARG. S. 18564, 18h. 34m. 7s.

August	15	−20	26	28.4

ANONYMOUS, 18h. 34m. 15s.

June	27	−31	46	0.9

O. ARG. S. 18577, 18h. 34m. 42s.

July	30	−19	24	51.1
August	30			50.2

O. ARG. S. 18604, 18h. 35m. 54s.

July	30	−19	27	14.3
August	30			12.8

O. ARG. S. 18623, 18h. 36m. 57s.

August	1	−21	8	22.4

O. ARG. S. 18625, 18h. 36m. 57s.

August	15	−20	47	10.2

LACAILLE 7854, 18h. 38m. 38s.

August	29	−39	44	58.1

B. A. C. 6382, 18h. 38m. 49s.

July	8	−28	25	32.5
	11			31.6

LALANDE, 34916, 18h. 41m. 21s.

August	3	−19	17	44.7
	4			44.3

LACAILLE 7873, 18h. 41m. 30s.

July	25	−39	19	55.3
August	1			54.4

β LYRÆ, 18h. 44m. 55s.

August	9	+33	12	9.3
	12			8.5
	23			8.7
	29			8.8

COMPANION OF β LYRÆ.

August	29	+33	11	29.9

ν^1 SAGITTARII, 18h. 45m. 44s.

July	8	−22	54	46.0
August	4			45.9

ANONYMOUS, 18h. 45m. 48s.

		°	′	″
August	4	−22	51	18.3

ν^2 SAGITTARII, 18h. 46m. 39s.

August	4	−22	50	30.3

ANONYMOUS, 18h. 47m. 8s.

July	2	−39	40	57.0

LACAILLE 7932, 18h. 49m. 33s.

July	2	−39	43	1.0

50 DRACONIS, 18h. 50m. 52s.

June	16	+75	15	60.8
September	27			63.1
October	7			63.1
	10			63.0
	11			62.0

50 DRACONIS, S. P.

February	8	+75	15	59.8
	24			59.6
March	2			59.8

50 DRACONIS, S. P. (Ref.)

March	9	+75	15	61.1

ζ SAGITTARII, 18h. 53m. 44s.

July	5	−30	4	33.3

LACAILLE 7962, 18h. 53m. 46s.

August	4	−38	27	0.0

ζ AQUILÆ, (Ref.,) 18h. 58m. 59s.

June	16	+13	39	32.1

LACAILLE 8045, 19h. 6m. 40s.

August	4	−33	46	5.6

B. A. C. 6607, 19h. 12m. 16s.

August	4	−22	39	31.3

δ DRACONIS, 19h. 12m. 31s.

October	10	+67	24	57.1
	14			57.3

δ DRACONIS, S. P.

March	7	+67	24	55.2

ANONYMOUS, 19h. 12m. 35s.

June	25	−10	12	48.7

ANONYMOUS, 19h. 16m. 5s.

October	7	−23	26	27.3

δ AQUILÆ, 19h. 18m. 26s.

		°	″	′
July	30 . .	+2	50	20.1
October	17 . .			20.7

ANONYMOUS, 19h. 23m. 15s.

October	7 . .	−23	23	17.5

B. A. C. 6677, 19h. 23m. 20s.

August	1 . .	−28	30	11.3
October	10 . .			10.8

O. ARG. S. 19715, 19h. 25m. 57s.

October	7 . .	−19	52	7.3
	17 . .			8.0

O. ARG. S. 19732, 19h. 27m. 5s.

October	7 . .	−19	52	51.9

μ AQUILÆ, 19h. 27m. 15s.

September	1 . .	+7	5	4.8
	2 . .			5.9

9 VULPECULÆ, 19h. 28m. 23s.

October	10 . .	+19	28	13.1

κ AQUILÆ, 19h. 29m. 20s.

October	14 . .	−7	20	6.7

κ AQUILÆ, (Ref.)

October	14 . .	−7	20	8.7

e¹ SAGITTARII, 19h. 32m. 42s.

October	17 . .	−16	36	37.4

LACAILLE 8186, 19h. 32m. 54s.

October	7 . .	−36	57	11.3

O. ARG. S. 19879, 19h. 34m. 9s.

August	1 . .	−24	42	9.0

ANONYMOUS, 19h. 36m. 10s.

August	5 . .	−23	11	9.2

O. ARG. S. 19909, 19h. 36m. 18s.

July	30 . .	−23	35	39.0
October	10 . .			37.9

f SAGITTARII, 19h. 38m. 11s.

September	2 . .	−20	5	38.1

γ AQUILÆ, 19h. 39m. 36s.

August	3 . .	+16	16	30.3

LACAILLE 8231, 19h. 40m. 14s.

		°	′	″
October	10 . .	−38	7	18.1
	17 . .			16.4

α AQUILÆ, 19h. 43m. 57s.

January	26 . .	+8	30	7.7
July	30 . .			8.6
August	4 . .			8.7
	9 . .			8.4

α AQUILÆ, (Ref.)

August	9 . .	+8	30	7.3

O. ARG. S. 20030, 19h. 44m. 27s.

October	7 . .	−23	30	40.2

B. A. C. 6814, 19h. 45m. 54s.

October	10 . .	−24	17	9.2
	17 . .			9.2

β AQUILÆ, 19h. 48m. 25s.

August	1 . .	+6	3	36 1
	3 . .			34.0
	12 . .			34.4

β AQUILÆ, (Ref.)

August	12 . .	+6	3	33.3

ε DRACONIS, 19h. 48m. 38s.

September	27 . .	+69	54	43.5

ε DRACONIS, (Ref.)

September	27 . .	+69	54	40.8

g SAGITTARII, 19h. 49m. 59s.

August	5 . .	−15	51	33.5
October	7 . .			35.0
	10 . .			34.4

WEISSE XIX, 1319, 19h. 53m. 14s.

July	25 . .	−14	19	17.1
August	9 . .			17.6
October	14 . .			17.0

LACAILLE 8325, 19h. 55m. 27s.

October	17 . .	−22	57	5.7
	21 . .			5.8

O. ARG. S. 20246, 19h. 59m. 19s.

August	5 . .	−24	16	52.8

WEISSE XIX, 1512, 20h. 0m. 43s.

October	7 . .	−14	39	25.8
	17 . .			25.3

λ URSÆ MINORIS, 20h. 3m. 54s.

		°	′	″
July	28 . .	+88	53	25.3
August	4 . .			25.6
September	1 . .			24.3
	26 . .			26.0
October	14 . .			26.1
	21 . .			25.5

λ URSÆ MINORIS, (Ref.)

July	28 . .	+88	53	25.0

λ URSÆ MINORIS, S. P.

January	22 . .	+88	53	23.7
February	19 . .			25.1
April	6 . .			23.4

WEISSE XX, 81, 20h. 4m. 57s.

August	5 . .	−14	12	22.2

O. ARG. S. 20337, 20h. 6m. 41s.

August	29 . .	−15	45	17.6

b³ CYGNI, 20h. 9m. 18s.

August	3 . .	+36	22	46.6
September	2 . .			47.2
	28 . .			46.8

α¹ CAPRICORNI, 20h. 9m. 53s.

August	5 . .	−12	56	14.9
	12 . .			16.3
October	13 . .			16.4
	21 . .			17.0

33 CYGNI, 20h. 10m. 8s.

September	2 . .	+56	7	51.4

α² CAPRICORNI, 20h. 10m. 17s.

August	5 . .	−12	58	32.4
	12 . .			32.5
September	1 . .			31.9
October	7 . .			31.9
	13 . .			32.2
	14 . .			31.9
	21 . .			32.6

α² CAPRICORNI, (Ref.)

October	17 . .	−12	58	32.8

B. A. C. 6992, 20h. 12m. 54s.

August	3 . .	−15	13	22.2

O. ARG. S. 20423, 20h. 12m. 58s.

July	30 . .	−17	6	1.6

β CAPRICORNI, 20h. 13m. 8s.

August	3 . .	−15	13	12.4

κ CEPHEI, S. P., 20h. 13m. 32s.

		°	′	″
February	22 . .	+77	17	13.2
April	6 . .			16.0

ANONYMOUS, 20h. 14m. 12s.

October	21 . .	−33	29	31.5

O. ARG. S. 20443, 20h. 14m. 23s.

October	10 . .	−22	47	15.4

B. A. C. 7034, 20h. 19m. 36s.

October	7 . .	−26	3	53.5
	14 . .			55.4

ANONYMOUS, 20h. 19m. 59s.

October	10 . .	−35	49	21.4

B. A. C. 7039, 20h. 20m. 10s.

August	31 . .	−24	37	7.0

B. A. C. 7040, 20h. 20m. 26s.

August	31 . .	−24	26	29.4

B. A. C. 7049, 20h. 21m. 20s.

August	29 . .	−22	51	8.5

O. ARG. S. 20544, 20h. 21m. 24s.

August	3 . .	−23	18	27.8

ω¹ CYGNI, 20h. 22m. 45s.

October	21 . .	+48	55	13.3

B.A.C.7079, (1st & S. *,) 20h.24m.31s.

October	13 . .	+10	47	28.5
	17 . .			29.2

B.A.C. 7079, (2d & N. *,) 20h.24m.31s.

October	13 . .	+10	47	32.0
	17 . .			32.7

ω² CYGNI, 20h. 25m. 41s.

October	7 . .	+48	28	58.0
	10 . .			56.9

LACAILLE 8492, 20h. 26m. 8s.

October	14 . .	−30	56	56.4

ε DELPHINI, 20h. 26m. 31s.

October	13 . .	+10	49	48.7
	17 . .			49.3

B. A. C. 7111, 20h. 29m. 32s.

August	30 . .	−22	55	38.0

B. A. C. 7113, 20h. 29m. 50s.

		°	′	″
August	29	−24	42	46.8

Anonymous, 20h. 30m. 23s.

October	21	−33	38	48.0

B. A. C. 7124, 20h. 30m. 35s.

September	1	+72	3	25.5

B. A. C. 7124, (Ref.)

September	1	+72	3	25.8

B. A. C. 7124, S. P.

February	22	+72	3	22.4
April	6			25.0

Lacaille 8513, 20h. 31m. 23s.

August	31	−36	17	17.8

τ^2 Capricorni, 20h. 31m. 24s.

October	14	−15	26	34.9

B. A. C. 7147, 20h. 33m. 2s.

July	30	−26	29	34.6
October	7			32.9

Lacaille 8537, 20h. 34m. 45s.

October	11	−29	54	54.0
	17			52.8

Lacaille 8540, 20h. 35m. 47s.

August	31	−36	19	48.4

α Cygni, 20h. 36m. 40s.

July	28	+44	46	54.4
August	12			54.1
October	7			54.5

α Cygni, (Ref.)

July	28	+44	46	52.3
August	12			53.3
October	4			52.2

B. A. C. 7181, 20h. 38m. 3s.

September	26	−27	22	29.5
October	14			28.3

O. Arg. S. 20819, 20h. 38m. 6s.

August	29	−24	13	49.0

Anonymous, 20h. 38m. 51s.

October	18	−28	12	25.7

Anonymous, 20h. 39m. 27s.

		°	′	″
October	18	−28	15	41.5

ε Aquarii, 20h. 40m. 5s.

October	13	−10	0	19.9
	17			19.4

B. A. C. 7205, 20h. 40m. 58s.

July	30	−26	17	41.7
September	28			41.5

η Cephei, 20h. 42m. 26s.

October	10	+61	17	50.0
	21			49.0

η Cephei, (Ref.)

October	10	+61	17	51.6
	21			50.4

Lacaille 8608, 20h. 44m. 34s.

October	7	−32	2	12.4

μ Aquarii, 20h. 45m. 6s.

September	1	− 9	30	20.7

μ Aquarii, (Ref.)

September	1	− 9	30	22.3

Lacaille 8616, 20h. 45m. 42s.

October	11	−28	27	3.1
	14			3.9

B. A. C. 7244, 20h. 45m. 50s.

August	29	−24	48	20.8

O. Arg. S. 20951, 20h. 47m. 6s.

September	28	−15	48	42.2

57 Cygni, 20h. 48m. 18s.

October	17	+43	51	31.1

ν Cygni, 20h. 51m. 57s.

October	18	+40	37	48.1

76 Draconis, 20h. 52m. 29s.

November	5	+82	0	35.3

76 Draconis, S. P.

April	18	+82	0	33.9
	19			34.2

Anonymous, 20h. 52m. 29s.

September	28	−35	43	31.6

B. A. C. 7290, 20h. 53m. 16s.

		°	′	″
October	7	+43	55	41.6
	14			41.7

Radcliffe 5050, 20h. 53m. 22s.

October	7	+43	52	24.5
	14			23.6

B. A. C. 7299, S. P., 20h. 53m. 49s.

April	6	+80	1	29.4
	18			29.2
	19			29.7

Lacaille 8658, 20h. 54m. 22s.

October	11	−29	39	30.7

O. Arg. S. 21053, 20h. 54m. 48s.

August	29	−19	47	47.2
October	17			47.7

B. A. C. 7312, 20h. 56m. 59s.

October	18	−17	42	59.1

θ Capricorni, 20h. 58m. 4s.

October	18	−17	47	10.6

O. Arg. S. 21129, 20h. 59m. 52s.

July	30	−22	53	40.7

O. Arg. S. 21148, 21h. 0m. 43s.

November	5	−23	29	31.7

f^2 Cygni, 21h. 1m. 46s.

August	29	+47	5	13.6

O. Arg. S. 21163, 21h. 1m. 54s.

September	28	−23	5	29.0

B. A. C. 7347, 21h. 2m. 25s.

September	28	−23	2	40.3
October	17			41.1

ζ Piscis Australis, 21h. 4m. 58s.

October	11	−28	11	15.6

Lacaille 8741, 21h. 6m. 33s.

October	18	−26	29	12.9

ζ Cygni, 21h. 6m. 59s.

July	28	+29	39	15.7
August	31			17.4
September	1			15.9

ζ Cygni, (Ref.)

		°	′	″
September	1	+29	39	16.2
	26			16.5
October	7			16.0
	10			(17.7)

29 Capricorni, 21h. 7m. 57s.

September	28	−15	45	2.0
October	14			2.0

α Equulei, 21h. 8m. 49s.

September	2	+ 4	40	16.4
October	17			17.1

O. Arg. S. 21290, 21h. 10m. 51s.

October	25	−22	37	19.9
November	5			20.1

Lacaille 8777, 21h. 11m. 39s.

October	11	−26	55	36.9

Lacaille 8787, 21h. 13m. 31s.

August	31	−29	45	26.6

B. A. C. 7413, 21h. 14m. 57s.

October	14	−23	15	50.3
	17			50.9

α Cephei, 21h. 15m. 14s.

September	2	+61	59	36.1
	26			36.6
October	10			36.0

α Cephei, (Ref.)

September	26	+61	59	35.8
October	10			35.8

Anonymous, 21h. 18m. 14s.

November	5	−22	25	54.4

ζ Capricorni, 21h. 18m. 40s.

July	30	−23	0	53.8
September	1			55.1

Lacaille 8821, 21h. 19m. 19s.

October	18	−28	19	50.9
	20			50.7

b Capricorni, 21h. 20m. 43s.

November	5	−22	24	51.2

Lacaille 8834, 21h. 22m. 35s.

October	14	−26	19	17.8

O. Arg. S. 21441, 21h. 23m. 33s.

September	28	−25	54	51.2

		°	′	″
Lacaille 8839, 21h. 23m. 46s.				
September	1 . .	−26	1	34.4
	28 . .			33.9
β Aquarii, 21h. 24m. 11s.				
September	2 . .	− 6	11	4.3
β Cephei, S. P., 21h. 26m. 51s.				
April	19 . .	+69	56	47.2
	25 . .			47.4
	29 . .			45.5
O. Arg. S. 21480, 21h. 26m. 51s.				
November	5 . .	−15	14	55.3:
8 Piscis Australis, 21h. 28m. 3s.				
October	18 . .	−26	47	35.5
	20 . .			34.9
7 Piscis Australis, 21h. 28m. 23s.				
September	26 . .	−33	40	17.5
ε Capricorni, 21h. 29m. 15s.				
September	1 . .	−20	5	26.9
October	14 . .			27.7
Weisse XXI, 739, 21h. 31m. 31s.				
October	29 . .	−14	41	15.2
Anonymous, 21h. 33m. 18s.				
October	11 . .	−33	9	44.6
	14 . .			45.3
Lacaille 8889, 21h. 33m. 52s.				
October	11 . .	−33	8	30.0
	14 . .			29.0
9 Cephei, 21h. 34m. 9s.				
October	20 . .	+61	27	5.3
O. Arg. S. 21596, 21h. 36m. 12s.				
November	1 . .	−18	49	10.4
	5 . .			11.9
45 Capricorni, 21h. 36m. 21s.				
September	26 . .	−15	23	17.8
October	7 . .			18.6
ε Pegasi, 21h. 37m. 19s.				
October	12 . .	+ 9	14	6.6
ε Pegasi, (Ref.)				
October	12 . .	+ 9	14	6.9
O. Arg. S. 21629, 21h. 38m. 53s.				
October	25 . .	−18	47	53.9
November	5 . .			53.0
11 Cephei, 21h. 39m. 52s.				
October	17 . .	+70	40	4.7
11 Cephei, (Ref.)				
October	17 . .	+70	40	2.7
11 Cephei, S. P.				
April	7 . .	+70	40	1.4
	13 . .			2.7
O. Arg. S. 21645, 21h. 39m. 57s.				
November	1 . .	−18	51	31.1
	5 . .			33.5
Lacaille 8923, 21h. 40m. 7s.				
October	13 . .	−26	31	24.5
	14 . .			25.1
Lacaille 8934, 21h. 41m. 51s.				
September	1 . .	−28	2	57.8
Lacaille 8947, 21h. 44m. 27s.				
September	1 . .	−27	58	10.4
November	5 . .			10.6
γ Gruis, 21h. 45m. 26s.				
September	26 . .	−38	1	16.8
October	25 . .			17.0
μ Capricorni, 21h. 45m. 39s.				
October	20 . .	−14	12	29.3
B. A. C. 7630, 21h. 47m. 21s.				
October	7 . .	−15	54	58.9
B. A. C. 7632, 21h. 47m. 56s.				
October	14 . .	−37	54	54.8
μ Cephei, 21h. 50m. 11s.				
October	13 . .	+55	56	57.8
79 Draconis, S. P., 21h. 51m. 8s.				
April	7 . .	+73	2	24.0
Lacaille 8981, 21h. 51m. 26s.				
September	26 . .	−29	43	24.5
Lacaille 8993, 21h. 53m. 11s.				
October	7 . .	−34	30	12.3
November	1 . .			11.6
B. A. C. 7665, 21h. 54m. 28s.				
September	1 . .	−18	34	24.4
October	25 . .			23.7
Lacaille 9003, 21h. 54m. 41s.				
October	20 . .	−28	2	18.1
29^1 Aquarii, 21h. 54m. 45s.				
October	14 . .	−17	38	15.9
29^2 Aquarii, 21h. 54m. 45s.				
October	13 . .	−17	38	12.6
	14 . .			14.0
O. Arg. S. 21841, 21h. 56m. 20s.				
November	1 . .	−22	27	20.7
	5 . .			20.3
λ Gruis, 21h. 57m. 38s.				
October	7 . .	−40	13	3.2
α Aquarii, 21h. 58m. 36s.				
November	14 . .	− 0	59	53.2
	25 . .			55.6
O. Arg. S. 21919, 22h. 0m. 32s.				
November	10 . .	−18	30	52.8
O. Arg. N. 23385, 22h. 0m. 53s.				
September	26 . .	+52	56	34.5
O. Arg. S. 21915, 22h. 0m. 54s.:				
November	5 . .	−22	22	19.7
36 Aquarii, 22h. 2m. 1s.				
October	14 . .	− 8	52	29.6
	25 . .			18.2
O. Arg. N. 23452, 22h. 2m. 16s.				
October	7 . .	+52	37	28.9
November	1 . .			28.5
39 Aquarii, 22h. 4m. 52s.				
October	13 . .	−14	52	52.8
	25 . .			52.2
B. A. C. 7745, 22h. 5m. 51s.				
October	20 . .	−25	52	19.2
November	1 . .			20.0
ζ Cephei, 22h. 6m. 0s.				
September	26 . .	+57	30	43.9
Lacaille 9113, 22h. 15m. 21s.				
October	18 . .	−26	32	37.1
	20 . .			37.2
O. Arg. S. 22146, 22h. 18m. 9s.				
September	26 . .	−19	3	52.
November	14 . .			50.
35 Pegasi, 22h. 20m. 4s.				
November	1 . .	+ 3	59	41.1
56 Aquarii, 22h. 22m. 47s.				
October	12 . .	−15	17	50.5
B. A. C. 7851, 22h. 23m. 57s.				
October	13 . .	+85	24	4.1
B. A. C. 7851, (Ref.)				
November	10 . .	+85	24	5.5
B. A. C. 7851, S. P.				
February	22 . .	+85	24	3.2
May	4 . .			4.4
	6 . .			(7.1)
η Aquarii, 22h. 28m. 10s.				
September	28 . .	− 0	50	16.1
η Aquarii, (Ref.)				
September	28 . .	− 0	50	16.5
σ^1 Gruis, 22h. 28m. 17s.				
September	26 . .	−41	18	14.4
October	7 . .			15.8
	25 . .			13.3
B. A. C. 7872, 22h. 28m. 41s.				
October	11 . .	−32	23	9.5
	12 . .			7.9
Anonymous, 22h. 28m. 45s.				
October	11 . .	−32	21	55.4
	12 . .			53.8
σ^2 Gruis, 22h. 28m. 55s.				
September	26 . .	−41	18	46.3
October	7 . .			48.1
	25 . .			45.7
κ Aquarii, 22h. 30m. 30s.				
October	18 . .	− 4	56	54.7
	20 . .			52.7
ε Piscis Australis, 22h. 32m. 53s.				
November	19 . .	−27	46	20.0
ζ Pegasi, 22h. 34m. 29s.				
October	10 . .	+10		5.6
	14 .			7.4

ζ Pegasi, (Ref.)

		°	′	″
October	10 . .	+10	6	6.3
	14 . .			6.3

12 Lacertæ, 22h. 35m. 12s.

October	18 . .	+39	29	43.5
	20 . .			43.1

O. Arg. N. 24532, 22h. 35m. 58s.

September	26 . .	+54	39	21.4
October	12 . .			21.0

O. Arg. S. 22373, 22h. 36m. 45s.

November	10 . .	—27	1	30.2

Lacaille 9256, 22h. 40m. 14s.

November	14 . .	—26	38	40.5
	19 . .			42.1

B. A. C. 7953, 22h. 41m. 49s.

October	12 . .	+57	44	42.7
	25 . .			42.6

τ³ Aquarii, 22h. 42m. 10s.

November	14 . .	—14	19	47.5

ι Cephei, 22h. 44m. 52s.

October	14 . .	+65	27	53.6

ι Cephei, (Ref.)

October	14 . .	+65	27	53.5

ι Cephei, S. P.

April	7 . .	+65	27	50.3
	29 . .			49.7
May	4 . .			50.5

λ Aquarii, 22h. 45m. 18s.

October	10 . .	— 8	19	23.7

λ Aquarii, (Ref.)

October	10 . .	— 8	19	23.2

B. A. C. 7990, S. P., 22h. 47m. 55s.

April	25 . .	+82	24	39.8
	29 . .			37.9
May	4 . .			37.9

α Piscis Australis, 22h. 49m. 55s.

April	17 . .	—30	31	47.7
October	13 . .			48.1
	18 . .			46.8
	20 . .			46.4
November	14 . .			48.9

B. A. C. 8026, (Ref.,) 22h. 55m. 23s.

October	10 . .	+83	35	49.1
November	10 . .			48.5

α Pegasi, 22h. 57m. 48s.

		°	′	″
January	27 . .	+14	27	11.9
April	17 . .			9.6
September	26 . .			9.7
October	20 . .			(15.5)

α Pegasi, (Ref.)

September	26 . .	+14	27	8.5

59 Pegasi, 23h. 4m. 40s.

October	18 . .	+ 7	57	40.0
	20 . .			41.5

O. Arg. S. 22687, 23h. 6m. 32s.

November	10 . .	—23	55	55.9
December	6 . .			56.4

Lacaille 9425, 23h. 9m. 0s.

November	10 . .	—23	59	14.2

Lalande 45545, 23h. 9m. 16s.

October	12 . .	—16	19	30.5
November	1 . .			30.4

O. Arg. S. 22723, 23h. 9m. 22s.

November	29 . .	—21	57	53.4

Anonymous, 23h. 12m. 28s.

November	24 . .	—39	12	30.6

Lacaille 9447, 23h. 12m. 36s.

October	18 . .	—23	35	14.8
	20 . .			15.6

Anonymous, 23h. 12m. 57s.

November	24 . .	—39	15	40.3

Anonymous, 23h. 13m. 11s.

December	6 . .	—34	39	48.4

97 Aquarii, 23h. 15m. 18s.

October	12 . .	—15	48	25.1

Anonymous, 23h. 16m. 14s.

November	1 . .	—34	8	38.7
	12 . .			36.9

Lalande 45892, 23h. 19m. 38s.

November	14 . .	—16	0	57.6

9 Piscium, 23h. 20m. 4s.

October	18 . .	+ 0	21	14.7
	20 . .			15.6

Anonymous, 23h. 20m. 9s.

		°	′	″
November	24 . .	—34	23	38.2
	29 . .			40.7
December	6 . .			39.0

B. A. C. 8172, 23h. 20m. 28s.

October	12 . .	—36	18	52.3

O. Arg. S. 22851, 23h. 20m. 37s.

November	14 . .	—16	4	6.9

Anonymous, 23h. 23m. 6s.

November	1 . .	—39	5	60.2
	12 . .			59.9

Anonymous, 23h. 27m. 9s.

November	1 . .	—39	2	22.9
	12 . .			22.8

Lacaille 9524, 23h. 27m. 27s.

October	12 . .	—35	48	1.7

B. A. C. 8213, 23h. 27m. 47s.

November	24 . .	+86	32	7.2
December	6 . .			7.5

B. A. C. 8213, (Ref.)

November	29 . .	+86	32	7.8

B. A. C. 8213, S. P.

March	9 . .	+86	32	6.2
April	6 . .			5.2
	18 . .			5.9
	21 . .			6.3
	29 . .			5.8

γ Cephei, S. P., 23h. 33m. 38s.

April	29 . .	+76	51	2.8
May	17 . .			3.0:
	19 . .			4.6
	20 . .			5.3

A¹ Aquarii, 23h. 34m. 18s.

October	12 . .	—18	48	0.9

τ Cassiopeæ, 23h. 40m. 13s.

November	1 . .	+57	52	20.5
	10 . .			21.8

τ Cassiopeæ, (Ref.)

November	1 . .	+57	52	20.3
	10 . .			20.6

τ Cassiopeæ, S. P.

		°	′	″
March	7 . .	+57	52	21.9
April	6 . .			19.5
	21 . .			15.6

B. A. C. 8287, 23h. 43m. 18s.:

November	5 . .	—21	0	37.0
	24 . .			37.5

O. Arg. S. 23082, 23h. 43m. 31s.

November	12 . .	—19	4	8.9
December	6 . .			8.9

108 Aquarii, 23h. 44m. 7s.

November	14 . .	—19	41	12 5

O. Arg. S. 23096, 23h. 45m. 3s.

November	12 . .	—18	48	12.8
	24 . .			14.6

Lalande 46769, 23h. 45m. 26s.

November	14 . .	—19	20	22.8

B. A. C. 8314, 23h. 48m. 4s.

October	12 . .	+73	37	53.3
November	29 . .			55.1

B. A. C. 8314, (Ref.)

October	12 . .	+73	37	52.1
November	29 . .			53.7

B. A. C. 8314, S. P.

April	18 . .	+73	37	52.8
	21 . .			52.4
May	16 . .			51.5
	20 . .			54.1

O. Arg. S. 23176, 23h. 52m. 54s.

November	1 . .	—18	47	31.1
	12 . .			30.4
	24 . .			32.1

29 Piscium, 23h. 54m. 38s.

October	28 . .	— 3	48	22.2
	31 . .			22.1

O. Arg. S. 23204, 23h. 55m. 45s.

November	10 . .	—20	49	41.1
	14 . .			40.4

Lacaille 9715, 23h. 58m. 8s.

November	12 . .	—39	38	15.5

B. A. C. 8375, 23h. 59m. 43s.

November	12 . .	—39	39	26.3

RIGHT ASCENSIONS, DECLINATIONS, AND SEMI-DIAMETERS

OF THE

SUN, MOON, AND PLANETS,

FROM OBSERVATIONS WITH THE

TRANSIT INSTRUMENT AND MURAL CIRCLE

IN

1864.

RIGHT ASCENSIONS, DECLINATIONS AND SEMI-DIAMETERS

OF THE

SUN, MOON, AND PLANETS.

SUN.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.	m. s.		h. m. s.	s.	m. s.	s.		° ′ ″	″	′ ′	″
Jan. 2	+ 4 12.3	. .	18 50 36.95	+ 0.09	1 11.18	— 0.14	. .	— 22 56 41.7	— 0.5	16 19.3	— 0.9
8	6 54.1	. .	19 16 58.46	0.16	1 10.68	0.00	. .	22 16 32.2	— 0.2	18.6	0.3
9	7 19.4	. .	19 21 20.43	0.14	1 10.56	+ 0.05	. .	22 8 20.0	+ 2.4	19.5	— 1.3
11	8 8.4	. .	19 30 2.79	+ 0.01	1 10.52	— 0.06	. .	21 50 29.8	— 0.4	17.9	+ 0.2
12	8 32.0	. .	19 34 23.02	— 0.01	1 10.39	— 0.01	. .	21 40 57.7	— 0.4	17.1	1.0
14	9 17.3	. .	19 43 1.22	+ 0.30	1 10.16	+ 0.05	. .	21 20 41.3	+ 2.2	17.0	+ 0.9
16	9 59.9	. .	19 51 37.34	— 0.01	1 10.02	0.01	. .	20 58 40.6	— 0.9	18.8	— 1.0
21	11 33.6	. .	. . . .	. .	1 9.46	+ 0.07	. .	19 56 55.3	+ 0.6	19.3	— 1.9
22	11 50.1	. .	20 17 7.06	+ 0.09	1 9.47	— 0.05	. .	19 43 24.9	— 0.2	17.3	0.0
23	12 5.8	. .	20 21 19.37	0.07	1 9.24	+ 0.07	S.	19 29 31.9	— 1.7		
25	12 34.7	. .	20 29 41.56	0.07	1 9.02	0.07					
26	12 48.0	. .	20 33 51.47	0.06	1 8.87	+ 0.11	. .	18 45 51.4	+ 0.6	15.6	+ 1.3
27	13 0.6	. .	20 38 0.56	0.07	1 8.89	— 0.02	. .	18 30 35.5	0.5	16.2	+ 0.5
28	13 12.3	. .	20 42 8.78	+ 0.15	1 8.68	+ 0.08	. .	18 15 1.0	+ 1.9	17.7	— 1.1
29	13 23.2	. .	20 46 16.44	— 0.01	1 8.69	— 0.05	S.	17 59 3.5	— 1.1		
Feb. 5	14 17.1	. .	21 14 46.31	+ 0.06	1 7.77	+ 0.05	S.	15 58 55.0			
8	14 28.1	. .	21 26 46.94:	0.14	1 7.44	0.04	. .	15 3 8.0	— 0.8	12.8	+ 2.0
10	14 31.5	. .	21 34 43.52	0.04	1 7.25	0.01	. .	14 24 41.5	— 0.7	14.2	0.2
11	14 32.0	. .	21 38 40.43	0.17	1 7.12	0.03	. .	14 5 7.2	+ 0.1	13.7	0.6
12	14 31.7	. .	21 42 36.70	0.14	1 6.98	0.06	. .	13 45 18.6	0.2	11.7	+ 2.4
13	14 30.6	. .	21 46 31.98	0.32	1 6.88	0.05	. .	13 25 16.3	0.1	14.5	— 0.6
16	14 22.7	. .	21 58 14.03	0.10	1 6.53	0.09	. .	12 23 56.3	3.2	14.0	— 0.7
18	14 13.8	. .	. . . .	. .	. . .	. .	. .	11 41 59.7	+ 1.5	10.9	+ 2.0
19	14 8.3	II.	22 9 49.31	0.00	. . .	. .	. .	11 20 43.4	— 0.7	11.1	1.6
20	14 2.1	. .	22 13 39.45	0.19	1 6.15	0 07	. .	10 59 21.2	+ 1.8	11.7	0.8
23	13 39.5	. .	22 25 6.41	+ 0.24	1 5.94	0.01	. .	9 54 4.5	— 1.1	11.5	0.4
24	13 30.7	. .	22 28 54.46	— 0.05	1 5.78	0.08	. .	9 32 1.2	1.1	9.1	2.5
26	13 11.4	. .	22 36 28.23	— 0.05	1 5.66	0.03	. .	8 47 28.9	1.8	10.2	1.2
27	13 0.9	. .	22 40 14.07	+ 0.13	1 5.50	0.11	. .	8 25 1.7	1.0	8.4	+ 2.7
Mar. 2	12 13.8	. .	22 55 13.05	0.11	1 5.23	0.07	. .	6 53 58.9	1.0	10.5	— 0.7
3	12 0.9	. .	22 58 56.61	+ 0.09	1 5.16	+ 0.07	. .	6 30 56.2	2.2	13.0	— 3.4
4	11 47.4	. .	23 2 39.86	— 0.06	1 5.17	— 0.01	. .	6 7 50.9	— 0.6	8.3	+ 1.1
7	11 4.7	. .	23 13 46.61	0.00	1 4.95	+ 0.03	. .	4 58 10.0	. .	7.3	1.3
9	10 34.3	. .	23 21 9.02	+ 0.21	1 4.88	0.00	. .	4 11 9.6	+ 0.3	7.5	0.5
12	9 46.2	II.	23 32 10.51	0.11	. . .	. .	. .	3 0 29.9	+ 1.7	6.2	1.0
14	9 12.6	. .	23 39 29.95	0.08	1 4.70	— 0.04	. .	2 13 10.7	0.0	5.2	1.5
16	8 37.9	. .	23 46 48.37	0.03	1 4.53	+ 0.07					
17	8 20.3	. .	23 50 27.19	0.07	1 4.57	0.01	. .	1 2 5.3	— 1.5	5.2	0.7
18	8 2.4	. .	23 54 5.90	0.02	1 4.47	+ 0.09	. .	0 38 24.6	0.3	4.2	+ 1.5
19	7 44.4	II.	23 57 44.20:	0.20	. . .	. .	. .	— 0 14 43.2	0.1	6.1	— 0.7
21	7 7.9	. .	0 5 0.86:	+ 0.10	1 4.56	— 0.06					
23	6 31.1	. .	0 12 17.21	— 0.10	1 4.38	— 0.10	. .	+ 1 19 53.5	0.1	16 3.2	+ 1.1
24	6 12.6	. .	0 15 54.98	+ 0.10	1 4.42	+ 0.05	N.	1 43 29.1			
28	4 58.4	. .	0 30 26.77	0.18	1 4.45	0.01	N.	3 17 24.3			
April 7	1 59.9	II.	1 6 53.47	0.00	. . .	. .	. .	7 7 0.0	1.2	15 57.0	3.1
8	1 43.1	. .	. . . .	. .	. . .	. .	. .	7 29 23.4	1.0	58.0	1.8
12	+ 0 38.3	II.	1 25 14.27	+ 0.14	. . .	. .	. .	7 51 39.2	0.8	57.7	+ 1.1
18	— 0 49.5	II.	1 47 25.63	— 0.01	. . .	. .	. .	11 5 24.1	0.8	57.9	— 0.7
19	1 2.9	. .	1 51 8.73	+ 0.06	1 5.22	0.03	N.	11 26 6.5	1.4		
22	1 40.4	. .	2 2 20.85	— 0.01	1 5.40	0.05	. .	12 27 1.4	2.0	54.7	+ 1.5
23	1 52.0	. .	2 6 5.78	— 0.01	1 5.40	0.12	. .	12 46 55.3	— 1.6	54.0	+ 1.9
25	2 13.7	. .	2 13 37.05	+ 0.01	1 5.64	0.02	. .	13 26 1.7	+ 2.8	55.7	— 0.3
26	2 23.9	II.	2 17 23.46	— 0.01	. . .	. .	. .	13 45 20.5	— 0.1	53.8	+ 1.4
27	2 33.5	II.	2 21 10.46	— 0.08	. . .	. .	. .	14 4 23.9	1.1	54.2	+ 0.7
28	2 42.6	. .	2 24 57.77	+ 0.07	1 5.82	0.06	. .	14 23 13.3	1.9	54.9	— 0.2
29	— 2 51.1	. .	2 28 45.74	+ 0.10	1 5.90	+ 0.06	. .	+ 14 41 46.8	— 1.0	15 53.8	+ 0.6

SUN.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.	m. s.		h. m. s.	s.	m. s.	s.		° ′ ″	″	′ ″	″
May 2	− 3 13.4	. .	. . . . .	. .	. . .	. .	. .	+ 15 36 2.3	− 1.1	15 51.4	+ 2.3
4	3 25.5	. .	2 47 54.09	+ 0.07	1 6.33	+ 0.03	. .	16 10 55.7	0.7	52.8	0.4
5	3 30.6	. .	2 51 45.48	0.04	1 6.42	0.02	. .	16 27 58.2	− 0.2	52.4	0.6
6	3 35.2	. .	2 55 37.40	0.05	1 6.49	0.03					
7	3 39.3	II.	2 59 29.87	+ 0.08	. . .	. .	. .	17 1 12.5	+ 2.0	51.8	0.7
9	3 49.7		. . . . .	. .	1 6.73	0.03	N.	17 33 20.5	2.4		
18	3 46.9	. .	3 42 44.46	− 0.06	1 7.43	+ 0.07	S.	19 42 55.4	0.7		
19	3 44.3	. .	. . . . .	. .	. . .	. .	S.	19 55 42.1	+ 0.8		
20	3 41.1	.	. . . . .	. .	1 7.67	− 0.02	N.	20 8 10.2	− 0.8		
23	3 28.6	II.	4 2 45.63	+ 0.01	. . .	. .	S.	20 43 26.8	2.6		
24	3 23.3	. .	4 6 47.35	0.13	1 7.90	+ 0.05	. .	20 54 27.5:	− 0.7	47.6	1.7
25	3 17.5	. .	4 10 49.74	0.09	1 7.98	+ 0.04					
27	3 4.4	. .	. . . . .	. .	. . .	. .	. .	21 25 21.1	+ 3.8	46.4:	+ 2.5
28	2 57.1	. .	4 22 59.76	+ 0.16	1 8.24	− 0.02	. .	21 34 58.8	+ 1.3	49.7	− 1.0
30	2 41.1	. .	4 30 9.06	− 0.01	1 8.34	0.00	. .	21 53 3.9	− 0.6	48.6	− 0.2
June 1	2 23.4	. .	4 39 19.94	0.01	1 8.40	+ 0.05	. .	22 9 35.6	0.3	46.9	+ 1.3
4	1 53.9	. .	. . . . .	. .	1 8.50	0.10	. .	22 31 29.6	− 0.2	45.7	2.1
6	1 32.5	. .	4 59 53.89	0.10	1 8.66	0.02	. .	22 44 4.9	+ 2.7	46.2	1.3
7	1 21.3	. .	5 4 1.54	0.00	1 8.72	0.00	S.	22 49 48.3	+ 2.6		
9	0 58.2	. .	5 12 17.88	0.06	1 8.76	+ 0.04	. .	23 0 8.4	− 3.0	44.8	2.4
10	0 46.3	. .	5 16 26.37	− 0.08	1 8.88	− 0.05	. .	23 4 37.1	0.8	45.4	2.7
11	0 34.3	. .	5 20 34.85	+ 0.11	1 8.87	0.01	N.	23 8 46.4	2.1		
13	− 0 9.6	I.	5 28 52.74	+ 0.07							
15	+ 0 15.6	. .	5 37 11.30	− 0.12	1 8.96	− 0.01	N.	23 21 4.7	1.0		
16	0 28.3	. .	5 41 20.52	0.00	1 8.94	+ 0.02	. .	23 23 7.6:	0.2	41.9:	(4.8)
17	0 41.1	. .	5 45 29.96	− 0.04	1 8.99	− 0.02	. .	23 24 49.1	2.8	44.9	1.7
18	0 54.0	. .	. . . . .	. .	1 8.96	+ 0.02	. .	23 26 2.4	− 1.6	44.5	2.1
20	1 19.8	. .	. . . . .	. .	1 8.92	0.06	. .	23 27 12.4	+ 2.1	44.4	2.1
21	1 32.7	. .	6 2 7.72	+ 0.08	1 8.94	0.04	. .	23 27 13.2	+ 1.1	44.5	1.9
22	1 45.5	. .	6 6 17.29	− 0.05	1 8.92	+ 0.05	. .	23 26 49.2	0.0	45.6	0.7
23	1 58.3	. .	. . . . .	. .	. . .	. .	. .	23 26 0.3	− 0.9	46.0	0.3
24	2 11.1	. .	6 14 35.93	+ 0.02	1 8.96	− 0.01	. .	23 24 48.1	− 3.3	45.1	1.2
25	2 23.7	. .	6 18 45.20	− 0.01	1 8.87	+ 0.06	. .	23 23 4.1	+ 1.3	45.2	1.0
27	2 48.6	. .	. . . . .	. .	1 8.80	+ 0.08	. .	23 18 29.7	+ 2.7	44.1	2.1
28	3 0.8	. .	6 31 12.00	+ 0.12	1 8.86	− 0.01	. .	23 15 40.3	− 1.2	45.6	0.5
29	3 12.9	. .	6 35 20.80	− 0.04	1 8.89	− 0.03	. .	23 12 29.9	+ 0.4	45.3	0.8
July 1	3 36.4	. .	6 43 37.45	0.03	1 8.74	+ 0.01					
2	3 47.7	. .	6 47 45.36	0.00	1 8.60	0.11	. .	23 0 7.7	− (5.9)	42.8	+ (3.3)
4	4 9.6	. .	6 56 0.38	0.00	1 8.52	0.11					
5	4 20.0	. .	7 0 7.44	− 0.04	1 8.58	0.00	. .	22 44 6.8	1.2	47.1	− 1.0
6	4 30.1	. .	7 4 14.07	+ 0.01	1 8.50	0.03	. .	22 38 1.2	1.7	44.6	+ 1.5
8	4 49.1	. .	7 12 26.28	− 0.01	1 8.32	0.11	. .	22 24 37.9	1.4	44.1	2.1
9	4 58.0	. .	7 16 31.86	0.12	1 8.33	0.04	. .	22 17 19.3	+ 0.9	43.5	2.7
12	5 22.0	. .	. . . . .	. .	. . .	. .	S.	21 53 2.3	11.9		
13	5 29.1	. .	. . . . .	. .	. . .	. .	. .	21 44 26.8	0.2	46.3	0.1
14	5 35.6	. .	7 36 52.23	0.01	1 7.99	+ 0.05	. .	21 35 16.7	+ 0.8	44.1	2.3
15	5 41.7	. .	7 40 54.91	0.07	1 7.99	− 0.02					
16	5 47.2	. .	7 44 56.99	0.06	1 7.96	− 0.06	. .	21 15 53.8	− 0.9	45.2	1.4
18	5 56.6	. .	. . . . .	. .	. . .	. .	. .	20 55 2.4	0.8	44.7	2.0
19	6 0.5	. .	7 57 0.07	− 0.08	1 7.68	0.00	. .	20 44 4.8	− 0.7	46.5	0.3
20	6 3.9	. .	8 0 59.85	+ 0.08	1 7.56	+ 0.04	. .	20 32 45.3	+ 0.2	45.8	1.0
21	6 6.7	. .	8 4 59.43	− 0.12	1 7.57	− 0.05	S.	20 21 6.6	− 0.4		
22	6 9.0	. .	8 8 58.17	0.05	1 7.41	+ 0.03	. .	20 9 6.9	0.6	46.1	0.9
23	6 10.7	. .	8 12 56.45	0.08	1 7.34	0.02	. .	19 56 47.1	0.8	45.3	1.6
26	6 12.3	. .	8 24 47.80	0.09	1 7.10	0.01	. .	19 17 48.5	1.6	45.6	1.8
27	6 11.8	. .	. . . . .	. .	. . .	. .	. .	19 4 9.3	1.0	45.7	1.8
28	6 10.6	. .	8 32 39.11	0.05	1 6.90	0.05	. .	18 50 11.7	0.9	46.2	1.4
29	6 8.8	.	8 36 33.86	0.01	1 6.78	0.08	. .	18 35 55.8	− 1.2	46.6	+ 1.1
30	6 6.5	. .	8 40 28.21	0.16	1 6.68	0.09	N.	18 21 19.7	+ 0.3		
Aug. 5	5 39.9	. .	9 3 40.72	0.01	1 6.23	0.00	. .	16 47 43.4	− 0.2	49.2	− 0.5
8	5 18.4	. .	. . . . .	. .	. . .	. .	. .	15 57 12.5	1.0	47.4	+ 1.7
9	5 10.1	. .	. . . . .	. .	. . .	. .	. .	15 39 50.6	0.7	47.7	+ 1.6
10	5 1.2	. .	9 22 44.67	0.00	1 5.80	0.01	. .	15 22 15.2	− 1.8	50.0	− 0.6
11	4 51.7	I.	9 26 31.90	0.22	. . .	. .	. .	15 4 22.0	+ 0.2	49.5	+ 0.1
12	4 41.6	. .	9 30 18.17	0.06	1 5.58	+ 0.07	. .	14 46 16.2	0.3	48.8	1.0
13	4 30.9	. .	9 34 4.10	− 0.13	1 5.61	− 0.04	. .	14 27 56.0	0.6	49.6	0.4
17	3 42.9	. .	9 49 2.00	+ 0.01	1 5.24	+ 0.02	. .	13 12 22.3	+ 0.6	50.3	0.4
23	2 16.0	. .	. . . . .	. .	. . .	. .	. .	11 12 50.8	− 0.7	51.2	0.7
24	2 0.1	. .	10 14 54.85	0.00	1 4.69	0.11	. .	10 52 15.9	0.7	50.6	1.5
25	1 43.7	. .	. . . . .	. .	. . .	. .	. .	10 31 29.8	0.0	50.6	1.7
26	1 27.0	. .	10 22 14.90	− 0.15	1 4.55	0.13	. .	10 10 35.0	0.7	50.6	2.0
27	1 9.9	I.	. . . . .	. .	. . .	. .	N.	9 49 29.7	0.7		
29	0 34.6	.	10 33 11.99	0.12	1 4.51	+ 0.01	. .	9 6 50.4	− 0.2	53.2	0.0
30	+ 0 16.4	II.	10 36 50.44	− 0.18	. . .	. .	. .	+ 8 45 16.9	+ 0.7	15 52.8	+ 0.6

SUN.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.	m. s.		h. m. s.	s.	m. s.	s.		° ′ ″	″	′ ′	
Sept. 1	— 0 20.7	II.	10 44 6.28	— 0.19	. . .	. .	. .	+ 8 1 47.1	+ 0.3	15 52.9	+ 1.0
2	0 39.7	. .	. . . .	. .	1 4.25	+ 0.09	. .	+ 7 39 50.4	0.1	51.4	2.7
27	9 15.5	I.	. . . .	. .	. . .	. .	. .	— 1 54 51.3	0.1	15 59.0	1.6
Oct. 8	12 36.2	. .	. . . .	. .	. . .	. .	. .	6 10 3.5	2.3	16 3.6	0.1
13	13 51.8	. .	. . . .	. .	. . .	. .	. .	8 3 13.1	0.9	4.7	0.4
15	14 18.5	. .	. . . .	. .	. . .	. .	N.	8 47 44.3	+ 0.3		
17	14 42.9	. .	. . . .	. .	. . .	. .	. .	9 31 45.0	— 0.9	5.0	1.2
18	14 54.2	. .	. . . .	. .	. . .	. .	. .	9 53 35.1	+ 0.4	4.8	1.7
19	15 4.8	. .	. . .	. .	. . .	. .	. .	10 15 16.1	1.3	4.4	2.3
21	15 24.2	. .	. . . .	. .	. . .	. .	. .	10 58 9.5	1.5	6.5	0.7
22	15 32.8	. .	. . . .	. .	. . .	. .	. .	11 19 21.5	+ 1.4	6.2	1.3
24	15 47.9	. .	. . . .	. .	. . .	. .	. .	12 1 11.7	— 1.7	7.4	0.6
25	15 54.4	I.	14 1 23.51	+ 0.15	. . .	. .	. .	12 21 55.0	+ 1.2	6.6	1.8
26	16 0.1	. .	. . . .	. .	. . .	. .	. .	12 42 23.2	0.5	6.5	2.0
29	16 12.8	. .	14 16 51.43	0.06	1 6.62	+ 0.07	. .	13 42 37.7	+ 0.6	8.2	+ 1.1
Nov. 10	15 51.6	. .	15 4 31.27	0.07	1 8.12	— 0.01					
11	15 44.5	. .	. . . .	. .	. . .	. .	. .	17 38 37.9	— 0.6	12.8	— 0.3
14	15 18.2	. .	. . . .	. .	. . .	. .	. .	18 26 19.9	+ 1.9	12.4	+ 0.7
16	14 56.4	. .	. . . .	. .	. . .	. .	. .	18 56 27.1	— 0.4	12.9	0.6
19	14 17.4	. .	. . . .	. .	. . .	. .	. .	19 39 5.5	— 3.3	11.4	+ 2.7
23	13 13.8	. .	. . . .	. .	. . .	. .	. .	20 31 4.9	+ 1.9	15.3	— 0.5
29	11 15.1	. .	. . . .	. .	. . .	. .	. .	21 37 23.1	— 0.4	13.8	+ 2.0
Dec. 1	10 30.0	. .	16 32 41.24	+ 0.28	. . .	. .	. .	21 56 15.6	+ 0.1	14.1	2.0
5	8 52.6	. .	. . . .	. .	. . .	. .	. .	22 28 52.4	— 0.9	14.3	+ 2.4
12	5 43.6	. .	. . . .	. .	. . .	. .	. .	23 8 58.8	+ 1.6	20.3	— 2.8
23	— 0 19.0	. .	. . . .	. .	. . .	. .	. .	23 26 9.8	0.3	18.9	— 0.7
28	+ 2 10.1	. .	18 31 50.85	— 0.09	. . .	. .	S.	23 15 9.4	1.1		
30	+ 3 8.5	. .	18 40 42.42	+ 0.01	. . .	. .	. .	— 23 7 27.5	+ 0.1	16 14.9	+ 3.5

MOON.

Date.	Mean time.	Limb.	Right ascension of Moon's limb.	C − O		Limb.	Declination of centre.	C − O	
				Peirce.	Hansen.			Peirce.	Hansen.
1864.	h. m.		h. m. s.	s.	s.		° ″	″	″
January 1	17 56.9	II.	12 43 19.22	− 0.06	+ 0.12				
3	19 33.1	II.	14 27 47.43	+ 0.55	+ 0.59				
11	2 24.7	I.	21 45 47.95	− 0.34	− 0.18				
14	5 0.5	I.	0 33 55.63	− 0.08	0.16				
15	5 50.4	I.	1 27 52.26	+ 0.04	0.03	S.	+ 12 9 6.3	− 1.2	− 2.4
16	6 40.3	I.	2 21 50.37	− 0.12	0.15	S.	15 49 49.9	1.4	1.9
21	10 49.1	I.	6 51 7.40	+ 0.12	0.11				
22	11 36.0	I.	7 42 2.97	0.32	0.03	N. & S.	16 57 9.1	0.7	1.6
23	12 21.1	II.	8 33 22.58	0.32	0.08	N. & S.	13 56 15.1	0.8	1.5
24	13 4.7	II.	9 21 2.27	0.34	0.08				
25	13 47.2	II.	10 7 33.13	0.13	0.19	S.	6 19 32.7	4.3	3.8
26	14 29.1	II.	10 53 28.49	+ 0.12	0.07				
27	15 11.0	II.	11 39 29.97	− 0.04	− 0.09				
February 3	21 6.3	II.	18 3 32.81	+ 0.02	+ 0.38				
4	22 7.1	II.	19 8 27.36	+ 0.24	+ 0.26				
10	2 50.2	I.	0 9 40.68	− 0.55	− 0.20				
11	3 42.3	.	1 5 54.32	0.44	0.23				
12	4 34.0	.	2 1 40.89	0.23	0.20	S.	14 16 58.0:	− 2.4	5.2
13	5 25.5	I.	2 57 15.76	0.12	0.25	S.	17 28 24.1	+ 0.2	− 2.7
14	6 16.8	I.	3 52 38.00	− 0.06	0.30				
16	7 57.6	I.	5 41 34.65	+ 0.07	0.19	S.	20 38 59.6	2.9	+ 2.1
17	8 46.2	I.	6 34 21.33	0.03	0.17	N. & S.	19 36 49.0	+ 1.8	+ 0.8
18	9 33.4	I.	7 25 35.57	0.02	0.12	S.	17 39 59.8	− 0.3	− 1.7
19	10 18.9	I.	8 15 12.75	+ 0.11	0.00	N. & S.	14 56 14.3	− 0.4	2.3
20	11 3.0	.	9 3 21.55	− 0.08	0.14				
22	12 28.2	II.	10 38 43.09	0.09	0.09	S.	+ 3 32 28.2	+ 0.8	0.3
24	13 53.1	II.	12 11 46.03	0.10	− 0.04	S.	− 5 9 38.3	− 0.5	0.4
25	14 37.1	II.	12 59 50.22	0.08	+ 0.03				
26	15 23.0	II.	13 49 50.15	− 0.09	− 0.05				
27	16 11.4	II.	14 42 20.25	+ 0.05	+ 0.17				
March 1	18 53.3	II.	17 36 35.63	− 0.67	0.16	S.	− 20 33 38.1	− 4.2	2.3
2	19 51.3	II.	18 38 43.09	0.98	0.05				
3	20 49.7	II.	19 41 11.90	0.70	+ 0.23				
13	5 0.2	I.	4 26 11.15	− 0.10	− 0.33				
14	5 51.6	I.	5 21 41.97	+ 0.21	0.26	S.	+ 20 31 29.6	0.0	− 2.0
15	6 41.4	I.	6 15 39.18	0.35	0.23				
17	8 15.7	I.	7 58 2.02	0.24	− 0.22	N.	15 47 0.3	+ 0.1	+ 0.4
20	10 25.9	I.	10 20 32.38	+ 0.16	+ 0.06				
21	11 8.3	I.	11 6 58.44	− 0.08	− 0.06	N. & S.	+ 0 41 22.5	+ 0.9	− 0.1
23	12 35.2		. . . .	. .	. .	S.	− 7 55 42.0	− 0.5	0.6
24	13 21.0	II.	13 33 58.56	0.03	− 0.04	S.	11 53 38.6	2.3	− 1.8
27	15 52.7	II.	16 18 0.99	0.20	+ 0.21				
31	19 36.4	II.	20 18 7.67	0.77	+ 0.10				
April 10	3 41.2	I.	4 57 16.74	− 0.19	− 0.23				
13	6 10.1	I.	7 38 32.19	+ 0.51	0.11				
17	9 4.1	I.	10 48 59.78	0.42	0.20				
18	9 46.8	I.	11 35 41.96	0.42	− 0.09	N.	2 3 9.8	1.1	+ 1.7
19	10 30.4	I.	12 23 29.28	0.34	+ 0.01	N.	6 21 39.3	1.4	0.6
21	12 2.7	I.	14 5 0.42	0.35	0.22	S.	14 9 29.7	0.3	0.0
21	12 3.9	II.	14 7 12.04	0.41	0.22				
23	13 47.8	II.	15 59 15.65	+ 0.02	0.31				
27	17 31.8	II.	19 59 35.07	− 0.49	0.35				
28	18 26.0	II.	20 57 50.66	0.30	0.40				
29	19 18.9	II.	21 54 43.62	− 0.36	+ 0.20				
May 14	6 59.0	I.	10 29 59.58	+ 0.55	− 0.22				
16	8 24.0	I.	12 3 10.96	0.64	0.15	N.	4 34 56.7	1.0	+ 2.4
17	9 8.5	I.	12 51 44.36	0.68	0.08	N.	8 46 36.9	− 4.3	− 2.1
18	9 55.4	I.	. . . .	. .	. .	N.	12 40 16.0	+ 1.1	+ 2.2
19	10 45.3	I.	14 36 30.06	0.46	+ 0.09	N.	16 1 27.0	− 1.2	− 1.6
20	11 38.3	I.	15 33 30.12	0.39	0.28	N.	18 34 18.2	0.7	− 1.1
21	12 34.1	II.	16 35 40.59	+ 0.20	0.25				
22	13 31.7	II.	17 37 23.07	− 0.12	0.38				
23	14 29.8	II.	18 39 33.29	0.51	0.17				
24	15 27.0	II.	19 40 50.55	0.68	0.24				
27	18 7.6	II.	22 33 46.38	0.37	0.31				
28	18 58.4	II.	23 28 36.97	0.24	0.28				
29	19 48.9	II.	0 23 12.69	0.29	0.09				
30	20 39.8	II.	1 18 14.87	− 0.30	+ 0.06				
June 7	2 42.2	I.	7 46 50.37	+ 0.42	− 0.12				
9	4 11.8	I.	9 24 46.48	0.59	0.00				
10	4 54.3	I.	10 11 21.97	0.53	− 0.06				
13	7 1.3	I.	12 30 35.80	0.66	0.00	N.	− 6 54 24.1	− 1.8	0.0
14	7 46.3	I.	13 19 42.87	+ 0.89	+ 0.16				

MOON.

Date.	Mean time.	Limb.	Right ascension of Moon's limb.	C — O Peirce.	C — O Hanseu.	Limb.	Declination of centre.	C — O Peirce.	C — O Hanseh.
1864.	h. m.		h. m. s.	s.	s.		° ′ ″	″	″
June 15	8 34.1	I.	14 11 34.91	+ 0.73	+ 0.07	N.	− 14 30 59.7	− 0.6	− 0.7
16	9 25.3	I.	15 6 46.39	0.65	0.20	N.	17 28 10.9	+ 2.9	+ 1.5
17	10 20.0	I.	16 5 25.50	0.32	0.13	N.	19 29 46.7	2.3	− 0.6
18	11 17.6	I.	17 7 0.72	+ 0.01	0.02	N. & S.	20 19 51.0	+ 0.2	− 0.6
20	13 16.3	II.	19 16 8.96	− 0.25	0.06	N.	17 50 8.8	− 0.7	+ 0.6
21	14 14.3	II.	20 18 15.51	0.26	0.16				
22	15 10.1	II.	21 18 15.31	0.31	0.27				
23	16 3.8	II.	22 16 3.18	0.31	0.38				
24	16 55.8	II.	23 12 6.21	0.57	0.24				
25	17 46.7	II.	0 7 7.06	0.44	0.29				
26	18 37.3	II.	1 1 51.39	0.30	0.24				
27	19 28.3	II.	1 56 56.20	0.28	0.19				
28	20 20.0	II.	2 52 41.35	0.31	+ 0.13				
29	21 12.4	II.	3 49 4.34:	− 0.45	− 0.03				
July 9	4 14.6	I.	11 25 46.57	+ 0.55	+ 0.01				
10	4 56.7	I.	12 11 55.95	0.34	− 0.10				
13	7 14.1	I.	14 41 26.59	0.70	+ 0.12	N.	16 3 41.9	+ 0.8	0.7
14	8 5.9	I.	15 37 19.58	0.79	0.14	N.	18 31 45.5	1.7	0.2
15	9 1.2	I.	16 36 39.74	0.60	0.22	N.	19 58 54.5	3.1	0.4
16	9 59.3	I.	17 38 50.68	0.23	0.12	N. & S.	20 10 30.1	2.4	0.0
17	10 58.9	I.	18 42 37.50	+ 0.05	0.19				
18	11 58.7	I.	19 46 28.41	− 0.29	0.05	N.	16 20 23.1	1.5	0.9
18	. . .	II.	48 52.60						
20	13 53.7	II.	21 52 4.93	0.23	0.25				
21	14 48.3	II.	22 50 45.60	0.49	+ 0.04				
22	15 41.4	II.	23 47 54.15	0.62	− 0.05				
23	16 33.5	II.	0 44 8.05	0.67	− 0.02				
25	18 17.3	II.	2 36 3.83	0.49	+ 0.16				
26	19 9.4	II.	3 32 17.03	0.46	0.04				
27	20 1.6	II.	4 28 29.43	− 0.17	0.17				
August 10	5 56.3	I.	15 13 49.19	+ 0.59	0.08				
11	6 48.4	I.	16 9 59.26	0.60	0.04				
12	7 43.5	I.	17 9 11.42	0.63	0.08				
15	10 38.8	I.	20 16 45.03	+ 0.14	0.13	N.	14 36 0.9	3.3	+ 1.6
17	12 33.5	II.	22 22 5.29	− 0.16	0.22				
23	17 57.6	II.	4 10 38.28	0.43	0.03				
24	18 49.9	II.	5 7 2.27	− 0.27	0.07				
25	19 41.0	II.	6 2 9.52	+ 0.01	0.18				
27	21 17.8	II.	7 47 7.68	+ 0.05					
Novem'r 5	5 2.2	I.	20 2 41.90	0.00	0.17	S.	− 15 4 32.4	+ 0.9	0.0
6	5 55.5	.	21 0 2.50	0.00	0.12				
10	9 25.7	.	0 46 39.03	− 0.04	0.07	S.	+ 7 35 55.2	− 3.2	− 3.3
12	11 16.0	I.	2 44 59.77	− 0.17	0.05	S.	15 36 49.3	− 2.3	2.3
15	14 4.2	II.	5 47 51.83	+ 0.22	0.14				
22	19 27.2	II.	11 39 11.30	0.65	0.26				
24	20 53.5	II.	13 13 33.30	0.77	0.30				
Decem'r 6	6 28.0	I.	23 30 53.93	+ 0.03	0.12	S.	0 58 13.0	+ 2.9	0.2
7	7 19.3	I.	0 26 17.26	− 0.04	0.02				
8	8 11.5	I.	1 22 31.17	+ 0.01	0.14	S.	10 18 56.7	− 0.9	− 1.8
12	11 50.6	.	. . . .	. .	. .	S.	+ 19 41 0.7	0.0	+ 2.4
22	19 31.1	II.	13 41 18.99	+ 0.90	+ 0.46				

SIDERIAL TIME OF SEMI-DIAMETER PASSING THE MERIDIAN AND VERTICAL SEMI-DIAMETER OF THE MOON.

Date.	Sid. time of semi-diam. passing mer.	C — O	Vertical semi-diameter.	C — O
1864.	m. s.	s.	′ ″	″
January 22	. . .	. .	14 46.2	− 0.6
23	. . .	. .	14 44.0	0.0
February 17	. . .	. .	14 52.0	− 1.2
19	. . .	. .	14 44.3	0.0
March 21	. . .	. .	14 52.8	0.0
April 21	1 5.81	+ 0.03		
June 18	. . .	. .	15 51.6	
July 16	. . .	. .	16 11.6	+ 0.7
18	1 12.09	0.00		

MERCURY.

Date.		Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.		h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
January	8	1 27.6	.	. . . .	. .	. .	. .	.	— 19 24 3.4	— 0.6		
	9	1 27.6	I.	20 41 51.94	— 0.12							
	11	1 26.3	I.	20 48 [illegible]4.31	0.22	. .	. .	.	18 2 12.3	0.6		
February	4	22 47.5	.	. . . .	. .	. .	. .	.	18 25 31.2	1.0		
	9	22 33.4	II.	19 53 21.76	0.26	. .	. .	.	19 9 57.2	2.3		
	10	22 31.9	II.	19 55 42.31	0.27							
	22	22 32.2	II.	20 43 20.25	0.17							
	23	22 33.3	.	. . . .	.	. .	. .	.	18 35 41.6	0.4		
	26	22 37.2	II.	21 4 8.03	0.15							
March	1	22 43.5	II.	21 26 17.06	0.16							
	2	22 45.3	II.	21 31 59.42	0.16	. .	. .	.	16 21 56.8	0.4		
	6	22 52.9	II.	21 55 22.18	0.22	. .	. .	.	14 43 46.3	0.8		
	8	22 57.0	.	. . . .	. .	. .	. .	.	13 46 57.6	1.3		
	11	23 3.5	.	22 26 39.93	0.16	. .	. .	.	12 13 13.9	0.1		
	17	23 17.5	.	23 3 27.35	0.17							
	23	23 33.3	II.	23 42 57.54	0.10	0.22	— 0.05	.	— 4 2 33.9	1.8		
April	12	0 37.3	.	. . . .	. .	. .	. .	.	+ 13 3 38.8	— 1.6		
	18	0 57.8	I.	2 46 21.92	— 0.03							
	19	1 0.9	I.	2 53 18.48	+ 0.10							
	21	1 6.4	.	. . .	. .	. .	. .	.	19 41 3.4	+ 0.5		
	23	1 11.0	.	3 19 7.19	0.04							
	25	1 14.6	.	. . . .	. .	. .	. .	.	21 36 10.6	2.5		
	27	1 17.1	.	3 41 2.98	0.10	. .	. .	.	22 18 29.6	+ 0.7		
	28	1 17.9	.	3 45 49.78	0.15							
	29	1 18.5	.	3 50 18.64	0.05			.				
May	4	1 16.3	I.	4 7 52.51	0.17	. .	. .	.	23 30 26.6	— 0.4		
	5	1 14.9	.	. . . .	. .	. .	. .	.	23 31 36.6	+ 0.3		
	6	1 13.1	I.	4 12 31.02	0.24	. .	. .	.	23 30 36.9:	+ 2.1		
	7	1 11.0	I.	4 14 18.74	0.05							
June	5	22 45.9	II.	3 47 7.49	0.01							
	9	22 34.8	II.	3 51 47.70	0.10							
	12	22 29.5	II.	3 58 17.59	+ 0.11	. .	. .	.	16 31 42.5:	0.0		
	14	22 27.4	II.	4 4 1.88	— 0.04				16 59 42.2:	— 1.8		
	15	22 26.7	II.	4 7 18.79	+ 0.06							
	16	22 26.3	.	. . . .	. .	. .	. .	.	17 32 46.2:	0.7		
	20	22 27.5	.	. . . .	. .	. .	. .		18 50 27.6:	3.7		
	21	22 28.5	.	4 32 47.23	— 0.56							
	24	22 33.1	II.	4 49 12.92	+ 0.01	. .	. .	.	20 16 12.3:	0.0		
	27	22 40.2	II.	5 8 8.32	+ 0.08	. .	. .	.	21 20 8.8:	— 1.3		
	28	22 43.1	II.	5 15 0.02	— 0.08	. .	. .	.	21 40 25.7:	+ 0.6		
	30	22 49.7	II.	5 29 31.74	0.00	. .	. .	.	22 18 27.0:	— 0.5		
July	3	23 1.6	II.	5 53 15.44	+ 0.02							
	4	23 6.0	.	6 1 38.38	+ 0.05	. .	. .	.	23 18 21.7	3.8		
	6	23 15.5	II.	6 19 1.12	— 0.01	. .	. .	.	23 36 56.7	0.2		
	7	23 20.5	II.	6 27 58.13	+ 0.12	. .	. .	.	23 42 49.0	1.0		
	8	23 25.6	II.	6 37 3.92	— 0.02	. .	. .	.	23 46 10.9	1.6		
	29	0 59.9	.	. . . .	. .	. .	. .	.	16 27 16.3	2.1		
	30	1 3.1	.	. . . .	. .	. .	. .	.	15 48 21.0	1.0		
August	2	1 11.8	.	. . . .	. .	. .	. .	.	13 47 52.2	1.3		
	5	1 19.2	I.	10 17 23.91	0.03	. .	. .	.	11 43 35.4	1.3		
	10	1 28.7	I.	10 46 39.30	0.11	. .	. .	.	8 13 25.6	1.9		
	11	1 30.2	.	10 52 7.48	0.19							
	12	1 31.6	I.	10 57 28.16	0.07	. .	. .	.	+ 6 49 43.3	1.4		
	13	1 32.9	.	11 2 41.75	0.04							
	29	1 36.8	.	11 9 44.22	— 0.09							
	30	1 35.9	.	12 12 43.62	+ 0.07							
September	1	1 33.5	.	12 18 9.36	0.07	. .	. .	.	— 5 8 42.3	— 0.8		
October	12	22 45.9	.	. . . .	. .	. .	. .	.	+ 0 25 41.8	+ 0.9		
	13	22 47.1	.	. . . .	. .	. .	. .	.	— 0 5 29.9	0.4		
	24	23 8.5	.	13 25 39.28	+ 0.04	0.13	+ 0.04	.	7 17 37.8	1.1		
	28	23 17.4	.	13 50 21.98	— 0.03	. .	. .	.	10 3 51.1	1.0		
December	12	1 9.7	.	. . . .	. .	. .	. .	.	25 28 13.7	+ 0.4		
	22	1 26.1	.	. . . .	. .	. .	. .	.	23 13 57.2	— 0.4		
	23	1 26.2	.	. . . .	. .	. .	. .	.	21 54 49.1	— 1.4		
	28	. . .	.	. . . .	. .	. .	. .	.	— 21 16 54.2	0.0		

VENUS.

Date.		Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.		h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
January	8	20 57.5	II.	16 11 6.29	— 0.30							
	10	20 59.2	II.	16 20 38.84	0.13	. .	. .	.	— 18 50 35.7	+ 1.8	9.9	— 0.6
	11	21 0.1	II.	16 25 27.38	0.30	. .	. .	.	19 3 49.9	0.3	9.5	— 0.3
	13	21 1.8	II.	16 35 7.80	0.14							
	15	21 3.7	II.	16 44 53.35	0.08	. .	. .	.	19 52 33.3	1.1		
	19	21 7.7	.	. . . .	. .	. .	. .	.	20 33 46.1	1.4		
	22	21 10.9	II.	17 19 38.69	0.03	. .	. .	.	20 59 22.0	2.5	7.9	+ 0.6
	24	21 13.1	.	. . . .	. .	. .	. .	.	21 13 44.6	3.5		
	25	21 14.2	II.	17 34 47.52	0.11	. .	. .	.	21 20 4.7	2.6	8.6	— 0.3
	26	21 15.3	II.	17 39 52.23	0.22							
	27	21 16.4	II.	17 44 57.42	0.02	. .	. .	.	21 31 3.5	1.8	7.8	+ 0.4
	28	21 17.5	II.	17 50 3.56	0.04	. .	. .	.	21 35 41.2	1.8		
February	4	21 25.9	II.	18 26 2.44	0.13							
	7	21 29.6	II.	18 41 32.83	0.01	. .	. .	.	21 48 52.6	1.5		
	8	21 30.7	II.	46 43.29	0.03							
	9	21 32.0	II.	51 53.99	0.22	. .	. .	.	21 44 7.1	2.0		
	10	21 33.3	II.	57 4.37	0.06	. .	. .	.	21 40 48.8	2.6	7.4	+ 0.1
	11	21 34.5	II.	19 2 14.86	0.09	. .	. .	.	21 36 51.6	1.9		
	18	21 43.0	.	. . .	.	. .	. .	.	20 51 52.3:	2.0		
	19	21 44.2	II.	43 30.25	0.05	. .	. .	.	20 42 58.5	1.1		
	22	21 47.7	II.	58 51.94	0.13	. .	. .	.	20 12 44.0	1.0		
	23	21 48.9	II.	20 3 58.14	0.25	. .	. .	.	20 2 29.9	2.7		
	25	21 51.2	II.	14 8.40	0.27	. .	. .	.	19 37 11.1	0.1		
	26	21 52.3	II.	19 12.37	0.12	. .	. .	.	19 24 15.5	4.0		
March	1	21 56.7	II.	39 21.23	0.04	. .	. .	.	18 26 44.2	3.1		
	2	21 57.7	II.	44 21.54	0.13	. .	. .	.	18 11 2.6:	4.9		
	3	21 58.8	II.	49 21.12	0.32							
	6	22 0.9	II.	21 4 13.76	0.12	. .	. .	.	17 2 59.5:	2.3		
	8	22 2.9	II.	14 4.47	0.16	. .	. .	.	16 26 3.2	2.8		
	11	22 6.7	II.	28 43.29	0.29	. .	. .	.	15 27 10.7	2.4		
	13	22 8.5	II.	38 24.46	0.05	. .	. .	.	14 45 46.0	3.3		
	15	22 10.2	.	. . . .	. .	. .	. .	.	14 2 41.1	2.9		
	17	22 11.8	II.	57 35.72	— 0.19	. .	. .	.	13 18 1.9	1.7		
	18	22 12.6	II.	22 2 20.96	+ 0.07	. .	. .	.	12 55 10.5	3.0		
	23	22 16.5	II.	25 55.56	— 0.03	. .	. .	.	10 55 36.9	1.9		
	27	22 19.3	II.	44 32.88	— 0.10							
April	6	22 25.7	II.	23 30 20.77	+ 0.08							
	7	22 26.3	.	. . . .	. .	. .	. .	.	4 17 13.6	0.6		
	11	22 28.6	.	23 52 57.46	+ 0.06	0.40	— 0.03	.	— 2 24 26.0	+ 0.2		
	18	22 32.4	II.	0 24 27.83	— 0.01							
	21	22 34.2	.	0 37 57.72	0.03	0.36	+ 0.01	.	+ 2 21 54.9	— 1.2		
	22	22 34.7	.	0 42 27.97	0.09	0.33	+ 0.04					
	26	22 37.0	.	1 0 31.10	0.18	0.40	— 0.03					
	27	22 37.6	II.	1 5 2.66	— 0.15	. .	. .	.	5 13 3.2	+ 2.1		
	28	22 38.1	.	1 9 34.36	+ 0.12	0.41	0.05					
May	3	22 41.2	.	1 32 21.22	+ 0.07	0.41	0.05					
	4	22 41.8	.	1 36 56.31	— 0.02	0.39	0.03	.	8 28 14.7	— 0.9		
	5	22 42.5	.	1 41 31.91	+ 0.02	0.38	0.02	.	8 55 28.8	+ 0.5		
	6	22 43.2	.	. . . .	. .	. .	. .	.	9 22 33.3	— 0.1		
	20	22 53.9	.	. . . .	. .	. .	. .	.	15 14 47.0	2.3		
	22	22 55.7	.	3 1 42.22	0.10	0.38	0.02					
	23	22 56.6	.	3 6 33.87	0.23	0.41	0.05	.	16 21 54.8:	0.8		
	24	22 57.5	.	3 11 26.84	0.16	0.41	— 0.05					
	27	23 0.4	.	3 26 12.39	0.00	0.35	+ 0.01	.	17 45 43.9:	1.3		
	29	23 2.4	.	. . . .	. .	. .	. .	.	18 24 59.2:	2.5		
	30	23 3.5	.	. . . .	. .	. .	. .	.	18 43 53.0:	— 2.0		
	31	23 4.5	II.	3 46 8.74	0.00							
June	5	23 10.2	.	4 11 29.43	0.06	0.42	— 0.06					
	6	23 11.4	.	4 16 36.81	+ 0.09	0.43	— 0.07	.	20 41 55.4:	+ 0.5		
	8	23 13.9	.	4 26 54.84	— 0.05	0.35	+ 0.01					
	9	23 15.1	.	4 32 4.95	+ 0.26	0.39	— 0.03					
	12	23 18.8	.	. . . .	. .	. .	. .	.	22 1 21.2:	— 1.8		
	14	23 21.4	.	4 58 11.11	0.06	0.44	0.08	.	22 22 59.7:	3.6		
	15	23 22.7	.	5 3 26.84	0.09	0.41	0.05	.	22 32 48.3:	0.9		
	16	23 24.1	.	5 8 43.40	0.05	0.40	— 0.04	.	22 42 2.3:	2.0		
	17	23 25.4	.	. . . .	. .	. .	. .	.	22 50 35.7:	1.4		
	20	23 29.5	.	5 29 56.29	+ 0.06	0.36	0.00	.	23 12 22.6:	4.5		
	21	23 30.9	.	. . . .	. .	. .	. .	.	23 18 15.4:	3.3		
	25	23 36.4	.	. . . .	. .	. .	. .	.	23 39 16.9:	5.1		
	30	23 43.5	.	. . . .	. .	. .	. .	.	+ 23 40 19.6:	— 3.9		

VENUS.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
August 5	0 27.4	I.	9 25 31.25	— 0.21							
10	0 32.1	I.	9 49 52.72	0.13							
11	0 33.0	.	9 54 41.96	0.39	0.35	— 0.01					
12	0 33.9	.	9 59 29.72	0.23	0.33	+ 0.01	.	+ 13 47 8.8	— 1.6		
13	0 34.7	.	10 4 16.64	0.25	0.38	— 0.04	.	13 21 49.2	— 0.4		
23	0 42.1	.	. . . . .	. .	. .	. .	.	8 50 52.1:	+ 0.2		
24	0 42.8	.	. . . . .	. .	. .	. .	.	8 22 15.7:	— 0.4		
26	0 44.1	I.	11 5 2.57	0.18							
30	0 46.6	.	11 23 19.83	0.21	. .	. .	.	5 26 13.4	— 0.2		
September 1	0 47.8	.	11 32 25.35	— 0.08	0.38	— 0.04	.	+ 4 26 10.8	+ 0.3		
October 25	1 27.8	I.	15 45 30.31	+ 0.01	. .	. .	.	— 20 27 37.1	3.6		
29	1 32.6	I.	16 6 4.64	0.03							
November 10	1 48.7	I.	17 9 29.53	0.13	. .	. .	.	24 13 3.9	2.5		
14	1 54.5	.	. . . . .	. .	. .	. .	.	24 42 20.5	2.0		
23	2 7.9	.	. . . . .	. .	. .	. .	.	25 4 57.4	4.6		
25	2 10.8	.	. . . . .	. .	. .	. .	.	25 1 38.3	1.4		
December 6	2 26.4	I.	19 29 43.46	0.00	. .	. .	.	23 50 36.2	0.3		
12	2 34.0	.	. . .	. .	. .	. .	.	22 35 50.0	3.6		
22	2 45.1	.	. . . . .	. .	. .	. .	.	19 40 44.2	+ 0.5		
30	2 52.2	I.	21 30 13.38	+ 0.10	. .	. .	.	— 16 41 58.7	— 0.1		
MARS.											
November 15	13 11.4	.	4 53 40.29	— 0.72	0.70	— 0.02					
29	11 54.1	.	31 17.82	0.88	0.70	0.01	.	+ 23 43 48.1	+ 1.0	8.9	+ 0.5
30	11 48.5	.	. . . . .	. .	. .	. .	.	23 42 50.0	— 1.8		
December 3	11 31.7	.	. . . . .	. .	. .	. .	.	23 39 9.4	0.6	9.2	+ 0.1
6	11 15.1	.	. . . . .	. .	. .	. .	.	23 34 44.2	0.2		
12	10 43.0	.	. . . . .	. .	. .	. .	.	23 24 37.8	0.5		
14	10 32.5	.	. . . . .	. .	. .	. .	.	23 21 10.8	1.4		
20	10 2.6	.	4 2 22.09	0.83	0.55	0.06	.	23 11 30.9	0.8	9.4	— 1.0
22	9 53.0	.	0 40.83	0.75	0.59	— 0.01	.	23 8 46.4	1.6	8.4	— 0.1
23	9 48.3	.	. . . . .	. .	. .	. .	.	23 7 29.8	0.7		
24	9 43.7	.	. . . . .	. .	. .	. .	.	23 6 19.2	0.5	7.9	+ 0.2
29	9 21.5	.	3 56 36.99	— 0.79	. .	. .	.	+ 23 1 56.8	— 0.7		
JUPITER.											
May 4	12 33.3	.	. . . . .	. .	. .	. .	.	— 17 34 57.0	— 3.9	+ 21.8	+ 0.1
5	12 28.9	.	15 26 11.54	— 0.99	. .	. .	.	17 33 10.5	2.5	21.2	0.7
6	12 24.5	.	15 25 40.92	0.90	1.66	— 0.07					
7	12 20.0	.	15 25 10.44	1.07	1.58	0.01					
16	11 40.0	.	15 20 32.20	0.93	1.58	0.01	.	17 13 3.1	1.6	21.8	0.2
17	11 35.5	.	15 20 1.68	1.15	1.58	0.01	.	17 11 13.2	1.6	21.4	0.6
19	11 26.6	.	15 19 0.38	1.01	1.61	0.02	.	17 7 32.5	3.7	21.1	0.8
20	11 22.2	.	15 18 29.87	0.87	1.61	0.03	.	17 5 46.0	— 1.6	21.2	0.8
21	11 17.8	.	15 17 59.87	1.08	1.58	0.00	.	17 4 1.6	+ 2.0	20.	
27	10 51.2	.	. . . . .	. .	. .	. .	.	16 53 26.9	— 1.6	21.8	0.0
30	10 38.0	.	15 13 38.37	0.86	1.62	0.05	.	16 48 26.4:	0.7	21.2	0.6
31	10 33.7	.	15 13 10.85	0.85	1.63	0.06	.	16 46 48.6:	0.7	20.4	1.4
June 1	10 29.3	.	. . . .	. .	. .	. .	.	16 45 8.8:	4.2	21.4	0.3
3	10 20.5	.	11 50.60	0.82	1.58	— 0.02	.	16 42 3.4:	1.5	21.0	+ 0.7
7	10 3.1	.	10 9.85	0.98	1.43	+ 0.13					
13	9 37.3	.	15 7 53.37	0.89	1.57	— 0.03	.	16 28 12.5:	3.3	21.4	— 0.1
14	9 33.0	.	15 7 32.40	0.74	1.65	0.11					
15	9 28.7	.	15 7 12.25	0.83	1.60	0.06	.	16 25 53.6:	2.2	20.5	+ 0.8
17	9 20.2	I.	15 6 33.78	1.07	. .	. .	.	16 23 42.9:	2.6	20.7	0.5
18	9 16.0	.	15 6 15.21	0.96	1.56	0.03	.	16 22 41.2:	— 2.9	20.0	1.1
20	9 7.5	.	15 5 40.15	0.96	1.55	0.03	.	16 20 49.2:	+ 0.4	20.2	0.9
21	9 3.3	.	. . . . .	. .	. .	. .	.	16 19 51.6:	— 3.5	19.9	1.1
22	8 59.1	.	15 5 7.53	0.88	1.56	0.05	.	16 19 2.8:	1.3	20.7	0.3
25	8 46.6	.	15 4 23.62	0.91	1.54	0.04	.	— 16 16 44.7:	— 2.7	+ 20.2	+ 0.6
29	8 30.0	.	15 3 45.68	— 0.88	1.52	— 0.03					

SATURN.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination af centre.	C — O	Vertical semi-diameter.	C — O
1864.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
March 12	13 39.9	.	13 4 30.44	+ 0.60	0.58	+ 0.01	.				
23	12 53.8	I.	13 1 38.21	0.55	. .	. .	.	— 3 36 12.7	— 22.2	8.2	+ 0.8
24	12 49.6	.	13 1 21.62	0.65	0.60	— 0.01	.	3 34 24.1	22.9	7.8	1.4
April 6	11 54.8	.	12 57 41.53	0.59	0.59	0.00	.	3 10 56.9	21.3		
21	10 51.7	.	12 53 32.71	0.58	0.63	0.03	.	2 45 34.5	22.2		
23	10 43.3	.	12 53 1.51	0.53	0.61	0.01	.	2 42 29.9	21.5	8.2	0.8
26	10 30.7	.	12 52 15.91	0.50	0.59	0.00					
28	10 22.4	.	12 51 46.43	0.47	0.62	0.03	.	2 35 9.7	22.5	8.6	0.3
29	10 18.2	.	12 51 31.85	0.59	0.69	— 0.10	.	2 33 47.6	21.3		
May 4	9 57.4	.	12 50 22.94	0.49	0.58	+ 0.01	.	2 27 15.3	21.8	8.6	0.3
5	9 53.2	.	12 51 9.74	0.52	0.59	0.00	.	2 26 2.1	21.8	7.9	1.0
6	9 49.1	.	12 49 56.86	0.61	0.64	— 0.06	.	2 24 53.1	19.7		
7	9 44.9	.	12 49 44.38	0.50	0.60	0.02	.	2 23 42.4	21.0		
16	9 7.9	.	12 48 3.42	0.53	0.64	— 0.06	.	2 14 48.1	20.2	8.4	0.4
17	9 3.8	.	12 47 53.87	0.35	0.56	+ 0.02					
19	8 55.6	.	. . . . .	. .	. .	. .	.	2 12 26.3	21.5	8.4	0.4
20	8 51.5	.	. . . . .	. .	. .	. .	.	2 11 45.8	19.5	8.1	0.6
21	8 47.4	.	12 47 18.01	0.39	0.56	0.02					
30	8 11.0	.	12 46 11.59	+ 0.40	0.56	+ 0.01					
31	8 7.0	.	. . . . .	. .	. .	. .	.	2 6 27.6:	20.1	8.2	+ 0.4
June 13	7 15.4	.	. . . . .	. .	. .	. .	.	— 2 6 20.7:	— 19.4		

URANUS.

January 2	10 38.1	.	5 26 15.46	— 2.51	. .	. .	.	+ 23 22 10.3	+ 3.4		
5	10 25.8	.	. . . . .	. .	. .	. .	.	23 21 46.6	3.2		
6	10 21.7	.	5 25 35.09	2.29							
9	10 9.4	.	5 25 5.93	2.21	0.20	— 0.08	.	23 21 16.1	2.9		
11	10 1.2	.	. . . . .	. .	. .	. .	.	23 21 0.0	3.8		
12	9 57.2	.	5 24 37.86	2.23	. .	. .	.	23 20 53.9	2.5		
16	9 40.8	.	5 24 2.26	2.17	0.21	0.09	.	23 20 25.8	1.7		
22	9 16.4	.	5 23 13.81	2.51	. .	. .	.	23 19 43.5	3.4		
25	9 4.3	.	5 22 51.51	2.29							
26	9 0.2	.	5 22 44.67	2.45	. .	. .	.	23 19 20.6	1.7		
27	8 56.2	.	5 22 37.82	2.42	0.17	0.05	.	23 19 13.7	2.9		
28	8 52.1	.	5 22 31.16	2.39	0.16	0.04	.	23 19 8.1	2.9		
29	8 48.1	.	5 22 24.74	2.42	0.17	— 0.05	.	23 19 4.2	1.3		
February 3	8 27.9	.	5 21 55.44	2.45	. .	. .	.	23 18 37.2	2.8		
4	8 23.9	.	5 21 50.18	2.45	. .	. .	.	23 18 32.0	3.4		
8	8 7.9	.	. . . . .	. .	. .	. .	.	23 18 16.4	2.4		
10	7 59.9	.	. . . . .	. .	. .	. .	.	23 18 8.8	2.8		
11	7 55.9	.	. . . . .	. .	. .	. .	.	23 18 4.9	3.4		
12	7 51.9	.	5 21 15.64	2.36	. .	. .	.	23 18 3.3	2.0		
13	7 47.9	.	. . . . .	. .	. .	. .	.	23 17 59.1	3.3		
16	7 43.9	.	. . . . .	. .	. .	. .	.	23 17 51.6	3.3		
19	7 24.0	.	. . . . .	. .	. .	. .	.	23 17 46.5	2.8		
26	6 56.4	.	5 20 49.57	2.27	0.17	. .	.	23 18 54.0:			
March 7	6 17.4	.	. . . . .	. .	. .	. .	.	23 17 49.8	3.2		
November 29	13 14.7	.	5 52 16.35	2.86	. .	. .	.	23 38 16.2	8.0		
30	13 10.6	.	. . . . .	. .	. .	. .	.	23 38 17.7	5.3		
December 12	12 21.2	.	. . . . .	. .	. .	. .	.	23 37 57.4	6.1		
22	11 40.1	.	5 48 3.90	— 2.77	. .	. .	.	+ 23 37 34.1	+ 5.6		

NEPTUNE.

July 28	16 3.7	.	. . . . .	. .	. .	. .	.	+ 1 53 40.9	+ 17.0		
29	15 59.8	.	. . . . .	. .	. .	. .	.	1 53 24.3	16.9		
August 1	15 47.8	.	0 32 35.25	+ 2.73	. .	. .	.	1 52 31.2	15.7		
9	15 15.9	.	0 32 12.32	2.58	. .	. .	.	+ 1 49 38.4	+ 14.9		
12	15 4.0	.	0 32 1.81	+ 2.77							

NEPTUNE.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — 0
1864	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
October 25	10 6.3	.	0 25 18.61	+ 2.52	. .	. .	.	+ 1 3 50.1	+ 14.8		
28	10 2.2	.	. . . .	. .	. .	. .	.	1 2 10.9:	16.4		
29	9 50.2	.	0 24 57.47	2.93	. .	. .	.	1 1 40.0	15.7		
November 4	9 26.1	.	. . . .	. .	. .	. .	.	0 58 40.7	16.3		
5	9 22.1	.	0 24 24.08	2.59	. .	. .		0 58 13.5	15.6		
10	9 2.1	.	0 24 2.36	2.63	. .	. .	.	0 56 3.5	15.0		
12	8 54.1	.	0 23 54.29	2.59	. .	. .	.	0 55 16.0	14.6		
14	8 46.2	.	. . . .	. .	. .	. .	.	0 54 32.3	13.1		
24	8 6.4	.	0 23 14 34	2.57	. .	. .	.	0 51 25.5	14.8		
25	8 2.4	.	0 23 11.79	2.48	. .	. .	.	0 51 10.5	15.1		
29	7 46 5	.	0 23 2.44	2.44	. .	. .	.	0 50 20.1	15.5		
30	7 42.5	.	. . . .	. .	. .	. .	.	0 50 10.7:	14.3		
December 6	7 18.8	.	0 22 50.58	2.40	. .	. .	.	0 49 23.8	14.7		
14	6 47.2	.	0 22 44.39	2.35							
20	6 23.6	.	0 22 45.04	2.31							
22	6 15.8	.	0 22 45.05	2.50							
24	6 7.9	.	0 22 47.99	+ 2.32	. .	. .	.	+ 0 50 0.2	+ 14.4		
29	5 48.4	.		. .							

CERES.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — 0
October 25	10 58.9	.	1 18 8.61	— 2.52	. .	. .	.	— 6 30 28.4	— 30.4		
28	10 44.6	.	. . . . .	. .	. .	. .	.	6 33 58.4	23.4		
November 10	9 44.7	.	6 44.63	— 2.56	. .	. .	.	— 8 30 23.8	— 17.5		

JUNO.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — 0
July 2	9 55.9	.	16 41 26.13	— 0.41							
4	9 46.8	.	40 12.26	0.33	. .	. .	.	— 4 10 38.1	+ 1.2		
6	9 37.7	.	39 2.51	— 0.29	. .	. .	.	— 4 14 58.9:	— 0.1		

VESTA.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — 0
January 5	8 3.4	.	. . . .	. .	. .	. .	.	+ 11 8 58.3	— 2.7		
6	7 59.6	.	3 3 2.45	+ 0.29	. .	. .	.	. . . .	. .		
8	7 51.7	.	. . . .	. .	. .	. .	.	11 21 20.1	+ 6.3		
9	7 47.9	.	. . . .	. .	. .	. .	.	11 25 50.4	— 2.2		
12	7 36.6	.	3 38.13	0.24	. .	. .	.	11 39 28.6	2.1		
22	7 0.2	.	. . . .	. .	. .	. .	.	12 30 10.4	1.5		
23	6 56.8	.	7 11.84	0.16							
25	6 50.0	.	8 9.84	0.16	. .	. .	.	+ 12 46 44.9	— 3.0		
26	6 46.5	.	8 41.10	+ 0.02							
27	6 43.1	.	9 13.46	0.00							
29	6 36.4	.	10 22.54	— 0.08							
February 5	6 13.6	.	15 4.77	— 0.07							

HEBE.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — 0
January 9	9 10.2	.	. . . .	. .	. .	. .	.	+ 2 2 24.9			
12	8 58.1	.	4 25 23.98								
16	8 42.2	.	25 14.83								
25	8 8.4	.	26 45.76								
28	7 57.6		27 48.57								

IRIS.

Date.		Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
1864.		h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
March	2	13 2.2	.	. . . .	. .	. .	. .	.	− 7 54 20.7	+ 20.4		
	3	12 57.5	.	11 46 30.61	− 4.08	. .	. .	.	7 49 29.3	22.9		
	5	12 47.8	.	44 40.72	4.04	. .	. .	.	7 39 12.4	21.6		
	8	12 33.1	.	. . . .	. .	. .	. .	.	7 22 44.0	21.6		
	12	12 13.7	.	38 5.84	4.15	. .	. .	.	6 59 1.7	21.8		
	21	11 30.0	.	29 42.68	4.11	. .	. .	.	6 0 35.9	22.1		
	23	11 20.3	.	. . . .	. .	. .	. .	.	5 47 5.0	23.1		
	24	11 15.5	.	27 3.13	− 4.00	. .	. .	.	5 40 16.2	+ 21.9		
April	6	10 14.5	.	17 4.74	. .	. .	. .	.	4 13 38.2			
	7	10 9.9	.	16 26.58	. .	. .	. .	.	4 7 21.2			
	11	9 51.8	.	. . . .	. .	. .	. .	.	3 43 2.3			
	18	9 21.2	.	10 58.90	. .	. .	. .	.	− 3 4 39.3			
	19	9 16.9	.	10 37.56	. .							
	21	9 8.4	.	9 99.69	. .							

VICTORIA.

Date.		Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
June	27	12 45.2	.	. . . .	. .	. .	. .	.	− 9 1 14.1:	+ 5.2		
	28	12 40.4	.	19 10 42.19	+ 6.73							
	29	. . .	.	. . . .	. .	. .	. .	.	8 48 56.8:	8.2		
July	2	12 21.4	.	19 7 21.41	6.87	. .	. .	.	8 32 4.7:	12.2		
	4	12 11.8	.	19 5 37.92	6.98	. .	. .	.	8 21 47.5:	7.9		
	5	12 7.0	.	19 4 45.93	6.87	. .	. .	.	8 17 2.2	8.8		
	6	12 2.2	.	19 3 53.70	6.91	. .	. .	.	8 12 30.1	9.4		
	8	11 52.7	.	. . . .	. .	. .	. .	.	8 4 4.7	8.0		
	11	11 38.2	.	18 59 34.61	6.99	. .	. .	.	7 53 13.1	8.9		
	16	11 14.5	.	18 55 28.59	+ 6.62	. .	. .	.	7 39 48.5	+ 11.9		
	25	10 32.8	.	49 12.92	. .	. .	. .	.	7 29 48.7			
	27	10 23.8	.	. . . .	. .	. .	. .	.	7 29 58.8:			
	28	10 19.4	.	. . . .	. .	. .	. .	.	7 30 15.7			
	29	10 15.0	.	18 47 5.74	. .	. .	. .	.	7 30 51.6			
	30	. . .	.	. . . .	. .	. .	. .	.	− 7 29 3.0			
August	1	10 2.0	.	18 45 50.19								
	3	9 53.4	.	18 45 9.78								

EUNOMIA.

Date.		Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
July	2	12 51.1	.	19 37 12.04	. .	. .	. .	.	− 23 29 38.6			
	4	12 41.3	.	35 10.63	. .	. .	. .	.	23 25 36.6			
	5	. . .	.	. . . .	. .	. .	. .	.	23 23 33.6			
	6	12 31.3	.	33 6.64	. .	. .	. .	.	23 21 28.5			
	8	12 21.4	.	31 0.80								
	11	12 6.4	.	27 49.92	. .	. .	. .	.	23 10 20.4			
	15	11 46.4	.	23 33.28								
	16	11 41.4	.	22 29.64	. .	. .	. .	.	22 58 6.1			
	18	11 31.4	.	. . . .	. .	. .	. .	.	22 52 52.9			
	23	11 6.5	.	. . . .	. .	. .	. .	.	22 39 39.1:			
	25	10 56.6	.	. . . .	. .	. .	. .	.	22 33 18.2			
	28	10 42.0	.	. . . .	. .	. .	. .	.	22 20 28.6			
	29	10 37.2	.	9 27.06	. .	. .	. .	.	22 21 15.4			
	30	10 32.8	.	. . . .	. .	. .	. .	.	− 22 18 7.4			

PSYCHE.

Date.		Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — O
July	25	11 48.5	.	20 5 0.98	. .	. .	. .	.	− 17 54 11.7			
August	1	11 15.3	.	19 59 22.67	. .	. .	. .	.	− 18 19 2.6			

THETIS.

Date.	Mean time.	Limb.	Right ascension of centre.	C — O	Sidereal time of transit of semi-diameter.	C — O	Limb.	Declination of centre.	C — O	Vertical semi-diameter.	C — 0
1864.	h. m.		h. m. s.	s.	s.	s.		° ′ ″	″	″	″
May 4	. . .	.	. . . . .	. .	. .	. .	.	— 9 57 9.2			
5	12 50.7	.	15 48 6.06	. .	. .	. .	.	9 54 0.5			
16	11 57.8	.	38 21.51	. .	. .	. .	.	9 24 51.0			
30	10 50.1	.	. . . .	. .	. .	. .	.	9 9 7.0			
31	10 45.7	.	25 15.20								
June 1	10 41.0	.	. . . .	. .	. .	. . .	.	— 9 9 14.0			

MELPOMENE.

January 25	7 0.7	.	3 18 55.23								
27	6 55.1	.	21 13.82								
29	6 49.6	.	23 33.84								

FORTUNA.

December 22	11 2.5	.	5 10 20.89	— 4.98	. .	. .	.	+ 20 43 50.0	— 2.8		
24	10 52.7	.	. . . . .	. .	. .	. .	.	20 41 15.5	— 4.6		
29	10 38.9	.	5 4 13.20	. .	. .	. .	.	+ 20 35 26.4			

EUTERPE.

December 22	12 46.3	.	6 54 25.66	+ 0.01	. .	. .	.	+ 23 2 58.1	— 2.6		

AMPHITRITE.

October 25	12 5.9	.	2 25 13.69	— 8.88	. .	. .	.	+ 21 43 0.8	— 60.0		
28	11 51.0	.	. . . .	. .	. .	. .	.	21 36 36.6:	57.4		
November 4	11 18.6	.	. . . .	. .	. .	. .	.	21 17 49.6	61.8		
5	11 13.6	.	. . . .	. .	. .	. .	.	+ 21 14 47.0	— 63.5		

FIDES.

November 29	12 11.5	.	4 48 53.45	+ 0.73	. .	. .	.	+ 27 33 57.6	+ 2.6		
December 3	11 54.3	.	. . . .	. .	. .	. .	.	+ 27 30 58.4	+ 0.7		
22	10 19.3	.	4 26 58.89								

RIGHT ASCENSIONS AND DECLINATIONS

OF

STARS, ASTEROIDS, AND COMETS,

OBSERVED WITH THE EQUATORIAL,

1864.

RIGHT ASCENSIONS AND DECLINATIONS OF STARS, ASTEROIDS, AND COMETS,

OBSERVED WITH THE EQUATORIAL IN 1864.

DATE.		MEAN TIME—WASH.	COMPARISON STARS.	α	δ	No. of comp.
			EGERIA.			
1864.		h. m. s.		h. m. s.	° ′ ″	
January	5	8 42 2.3	Oeltzen N. 8459	7 51 47.35	+ 46 45 29.58	20
	6	8 41 32.4	Oeltzen N. 8459	7 50 33.37	46 52 48.21	13
	9	8 44 22.7	Oeltzen N. 8459	7 46 44.28	47 12 54.45	6
	9	8 44 22.7	Oeltzen N. 8445	7 46 44.26	47 12 50.32	6
	11	9 32 13.2	Radcliffe 2048	7 44 5.67	+ 47 24 38.90	4
			EURYNOME.			
January	9	7 4 56.1	Weisse I, 269	1 16 34.59	+ 5 49 6.55	9
	12	7 15 53.2	Weisse I, 328	1 21 3.51	6 12 16.78	6
February	4	6 55 24.6	Weisse I, 1022	1 59 13.29	7 28 20.05	11
	24	8 3 40.0	Weisse II, 615	2 37 0.62	12 57 57.04	14
	27	7 4 36.8	Weisse II, 746	2 42 51.67	12 53 51.86	5
March	2	8 22 50.8	Weisse II, 841	2 51 0.06	13 28 55.46	10
	3	8 0 10.1	(* 132) W.	2 52 57.89	13 37 9.82	10
April	6	8 39 35.4	Weisse 2, IV, 65	4 5 22.46	17 47 14.67	2
	7	8 22 51.3	Weisse 2, IV, 183	4 7 34.36	+ 17 52 51.38	10
			COMET 1863, VI, (Respighi.)			
January	25	7 4 14.3	Oeltzen N. 23383	22 0 21.13	+ 52 46 23.01	7
	26	7 13 39.0	Oeltzen N. 24533	22 36 24.36	53 46 41.40	14
	27	6 49 46.7	Radcliffe 6067	23 17 24.39	54 3 51.09	2
	27	7 34 17.0	Radcliffe 6081	23 18 53.03	54 3 28.88	14
	28	7 13 44.9	Oeltzen N. 26423	0 4 2.51	53 19 0.42	8
February	3	9 28 42.4	B. Z. 398, 17	3 37 3.53	28 42 29.22	8
	5	9 0 16.3	ω² Tauri	4 9 11.63	20 10 29.78	6
	8	8 14 17.5	(* 128) W.	4 40 37.12	10 36 26.26	14
	9	8 16 31.1	Weisse IV, 1028	4 48 22.97	8 7 40.53	14
	10	7 53 38.8	(* 129) W.	4 55 3.61	5 59 26.34	14
	11	8 21 33.3	Weisse V, 55	5 1 9.40	4 2 46.72	10
	12	10 43 28.1	(* 130) W.	5 6 59.48	2 11 10.40	7
	13	7 16 51.8	(* 131) W.	5 11 4.19	+ 0 56 16.24	8
			CONCORDIA.			
March	9*	10 0 55.4	Weisse (2,) VIII, 490	8 21 47.47	+ 16 43 34.04	6
			PHOCÆA.			
April	7	10 40 28.4	Oeltzen S. 12629	12 57 37.12	— 16 51 44.29	19
	18	9 55 18.2	Weisse XII, 834	12 48 15.31	14 1 25.24	3
	19	10 42 16.2	Weisse XII, 857	12 47 26.07	13 44 47.21	10
	23	11 45 46.1	Weisse XII, 743	12 44 11.44	12 39 5.84	12
	25	9 36 11.3	Weisse XII, 728	12 43 2.45	— 12 8 32.82	3
			EUROPA.			
April	26	10 35 16.5	Weisse XIII, 354	13 23 28.79	+ 2 20 27.60	10
	28	9 56 17.5	Weisse XIII, 354	13 22 11.47	2 26 38.10	14
	29	9 57 2.1	Weisse XIII, 354	13 21 33.16	2 29 29.48	20
May	4	8 52 7.0	Weisse XIII, 303	13 18 34.55	+ 2 41 36.63	12
			CIRCE.			
May	4	10 48 27.2	Weisse XIV, 1149	15 4 27.40	— 11 14 51.06	3
	5	10 49 14.9	Weisse XV, 3	15 3 36.75	11 9 28.53	13
	7	10 22 13.3	Weisse XV, 3	15 1 53.33	10 58 52.60	14
	16	8 57 46.3	Weisse XIV, 1048	14 54 29.97	— 10 15 1.82	11

* An unsatisfactory observation.

DATE.		MEAN TIME—WASH.	COMPARISON STARS.	α	δ	No. of comp.
			THETIS.			
1864.		h. m. s.		h. m. s.	° ′ ″	
May	30	9 36 35.0	Weisse XV, 444	15 26 5.33	− 9 9 6.41	17
	31	9 25 8.7	Weisse XV, 444	15 25 18.36	9 9 6.76	10
			BELLONA.			
June	3	10 57 9.8	Weisse XVI, 845	16 43 18.48	8 41 34.67	10
	22	9 48 18.7	Weisse XVI, 539	16 28 15.10	8 50 59.66	6
			JUNO.			
June	14	10 0 49.3	B. A. C. 5724	16 54 57.29	3 54 47.25	10
	15	9 44 45.5	B. A. C. 5724	16 54 7.50	3 54 18.24	19
	16	10 48 43.3	B. A. C. 5724	16 53 15.77	3 53 54.63	10
	20	10 12 54.9	Weisse XVI, 958	16 50 2.91	3 53 59.74	5
			EUNOMIA.			
July	4	11 31 11.7	Oeltzen S. 19909	19 35 13.45	23 25 40.55	6
	25	8 47 9.4	B. A. C. 6607	19 13 19.78	22 33 30.22	20
			VICTORIA.			
July	5	10 41 35.8	B. A. C. 6564	19 4 49.23	8 16 17.97	20
	13	9 22 53.3	Weisse XVIII, 1398	18 57 58.73	7 47 23.86	14
	13	9 22 53.3	Weisse XVIII, 1412	18 57 58.56	7 47 23.89	14
	14	9 7 36.4	Weisse XVIII, 1398	18 57 9.63	7 44 42.38	14
	14	9 7 36.4	Weisse XVIII, 1412	18 57 9.48	7 44 43.35	14
			PSYCHE.			
July	15	10 27 2.6	Oeltzen S. 20423	20 13 37.59	17 18 57.78	8
	16	10 53 6.0	Oeltzen S. 20423	20 12 47.60	17 21 25.80	10
	29	11 7 55.5	Oeltzen S. 20294	20 1 51.15	18 8 20.92	10
			ARIADNE.			
August	1	11 9 39.6	Weisse XXI, 1085	21 48 53.20	7 1 20.81	6
	3	9 39 25.6	Weisse XXI, 1085	21 47 11.60	7 5 33.52	13
			CALYPSO.			
August	5	10 37 15.0	Weisse XXI, 1106	21 46 49.06	12 56 22.19	4
	24	9 38 39.5	Weisse XXI, 739	21 30 36.36	14 48 2.13	5
	29	9 13 33.1	Oeltzen S. 21480	21 26 30.19	15 15 35.52	10
			COMET 1864, I.			
August	12	8 22 40.1	Weisse XIII, 81	13 9 5.92	2 38 29.62	3
	15	8 26 19.8	Weisse XIII, 676	13 40 44.89	7 50 0.62	4
	29	8 2 17.9	Weisse XIV, 199	14 14 30.69	13 15 10.24	6
	31	7 55 19.6	Weisse XIV, 293	14 15 53.95	13 29 28.95	10
	31	7 55 19.6	Weisse XIV, 316	14 15 54.65	− 13 29 30.55	10
			PALLAS.			
September	1	10 22 19.3	B. A. C. 7827	22 19 18.73	+ 4 13 5.50	10
	16	8 58 44.3	Weisse XXII, 153	22 8 45.29	1 2 37.16	14
	17	8 16 8.6	Weisse XXII, 113	22 8 8.38	+ 0 50 5.11	14
			ISIS.			
September	2	8 46 11.4	Oeltzen S. 22373	22 37 18.98	− 26 59 23.74	10
	9	10 4 53.5	Wash. Z. LIV, 17	22 32 3.81	27 20 6.42	12
	12	8 31 8.8	Wash. Z. LIV, 17	22 30 7.63	27 23 24.32	14
	13	9 38 21.6	Wash. Z. LIV, 17	22 29 28.80	27 23 48.84	15
			METIS.			
September	12	10 31 33.7	Weisse O, 845	0 50 41.79	4 24 35.24	6
	13	10 38 5.5	Weisse O, 845	0 49 58.76	4 29 52.72	20
	16	9 50 30.6	Weisse O, 845	0 47 41.35	4 45 38.49	10
	17	10 16 14.9	Weisse O, 836	0 46 51.30	− 4 51 4.48	5

DATE.		MEAN TIME—WASH.	COMPARISON STARS.	α	δ	No. of comp.
			ATALANTA.			
1864.				h. m. s.	° ′ ″	
September	16	10 38 46.3	Oeltzen S. 21903	22 0 19.44	— 25 26 59.02	5
	17	9 17 32.1	Oeltzen S. 21903	21 59 23.61	25 19 27.37	15
	19	9 48 25.9	Oeltzen S. 21903	21 57 29.26	— 25 2 32.95	8
			HARMONIA.			
September	24	10 17 58.7	Weisse I, 389	1 23 29.59	+ 0 29 44.74	7
October	17	8 23 28.7	Weisse O, 1041	1 2 7.72	— 1 31 58.24	10
	17	8 23 28.7	Weisse O, 1054	1 2 8.75	1 31 59.39	10
	18	7 24 5.1	Weisse O, 1041	1 1 14.28	— 1 35 46.70	12
			ECHO.			
October	7	9 3 33.7	Weisse II, 61	2 7 13.49	+ 11 19 15.05	10
	8	9 10 12.4	Weisse II, 61	2 6 30.79	11 13 2.25	13
	10	10 0 58.7	Weisse II, 61	2 4 56.87	10 59 35.00	4
	11	9 0 12.2	Weisse II, 61	2 4 11.12	10 53 5.03	10
	20	9 7 50.0	Weisse I, 1045	1 56 21.25	9 48 40.62	10
	25	9 28 43.8	Weisse I, 880	1 51 43.44	9 11 24.72	10
	31	9 33 56.6	Weisse I, 820	1 46 15.11	8 27 54.11	2
November	4	8 1 26.9	Rumker N. F., 928	1 42 15.20	+ 8 1 5.82	12
			CERES.			
October	18	8 7 29.8	Weisse I, 402	1 24 11.11	— 6 15 48.51	15
	20	7 25 17.6	Weisse I, 381	1 22 29.10	6 20 39.95	10
	20	7 25 17.6	Weisse I, 402	1 22 29.18	— 6 20 40.84	10
			AMPHITRITE.			
October	18	9 15 3.3	Weisse II, 805	2 32 11.47	+ 21 53 5.69	10
	20	8 14 26.3	Weisse II, 805	2 30 21.34	21 51 7.00	6
			CYBELE.			
November	5	7 44 47.8	Weisse III, 139	3 9 17.15	13 8 49.49	5
	5	8 5 49.6	Weisse III, 168	3 9 16.64	13 8 46.72	15
	14	8 10 6.6	B. A. C. 987	3 2 43.85	12 40 1.97	10
	23	9 18 15.5	Weisse II, 1001	2 56 26.62	12 13 43.61	4
	25	7 59 46.6	Weisse II, 1001	2 55 10.65	12 8 37.53	10
			FIDES.			
November	25	9 17 2.2	Weisse 2, IV, 1261	4 53 3.89	27 35 8.49	10
	29	9 0 9.1	Weisse 2, IV, 1047	4 49 1.98	27 33 58.42	10
	30	9 56 46.3	Weisse 2, IV, 1047	4 47 57.47	27 33 24.62	9
			FORTUNA.			
December	6	8 29 21.5	Rumker 1473	5 27 12.31	21 8 9.32	6
	7	8 58 17.7	Rumker 1473	5 26 7.05	21 6 34.45	8
	7	8 56 32.1	Σ Cat. Gen. 599	5 26 8.83	21 6 36.67	7
	14	9 12 40.6	Weisse 2, V, 478	5 18 34.17	20 55 31.66	15
			EUTERPE.			
December	14	10 5 59.6	Σ Cat. Gen. 825, *p.*	7 1 48.04	22 41 59.20	4
	22	10 54 17.9	ω^2 Geminorum	6 54 30.36	23 2 48.34	10
			TERPSICHORE.			
December	22	8 35 48.7	Weisse O, 247	0 14 28.00	6 24 54.48	7
	24	7 57 47.8	Weisse O, 302	0 16 29.10	6 40 1.88	10
	27	9 18 15.2	Weisse O, 302	0 19 44.75	+ 7 4 19.37	8

DATE.		STARS COMPARED.	STAR OF COMPARISON.	α	δ	No. of comp.
			PLEIADES.	1860. 0.	1860. 0.	
1864.				h. m. s.	° ′ ″	
October	12	A. 1	η Tauri	3 37 7. 97	+ 23 35 34. 38	9
	12	* 62	η Tauri	3 37 16. 91	23 38 28. 10	9
	12	A 7	η Tauri	3 37 33. 34	23 35 52. 44	9
	12	A 13	η Tauri	3 38 45. 71	23 33 26. 59	9
	12	A 11	η Tauri	3 38 20. 59	23 39 53. 83	9
	14	A 19	23 *d* Merope	3 39 3. 37	23 22 2. 56	10
November	4	A 19	23 *d* Merope	3 39 3. 43	23 22 3. 03	6
October	14	A 22	23 *d* Merope	3 39 6. 40	23 28 44. 43	10
November	4	A 17	23 *d* Merope	3 39 0. 49	23 18 20. 34	6
	4	A 23	23 *d* Merope	3 39 9. 72	23 14 28. 59	6
November	5	A 25	A 23	3 39 19. 40	23 10 21. 40	5
	5	A 26	A. 23	3 39 25. 06	23 6 22. 56	5
	5	A 28	A. 23	3 40 3. 43	23 59 7. 84	5
	5	* 49	A. 26	3 39 5. 84	23 6 42. 83	2
	5	* 50	A. 26	3 39 8. 75	23 6 15. 75	2
	5	* 51	A. 26	3 38 22. 82	23 7 1. 38	1
November	14	* 52	16 *g* Celæno	3 37 18. 49	23 54 30. 92	5
	14	20 *c* Maia	16 *g* Celæno	3 37 30. 08	23 55 38. 42	5
	14	19 *e* Taygeta	16 *g* Celæno	3 36 52. 68	24 1 31. 38	3
	14	* 53	16 *g* Celæno	3 37 14. 68	24 1 21. 17	3
November	30	* 54	η Tauri	3 38 50. 45	23 50 25. 61	4
	30	* 55	η Tauri	3 39 47. 80	23 42 26. 51	4
	30	26 S.	η Tauri	3 40 38. 31	23 25 32. 34	6
	30	A. 30	η Tauri	3 40 53. 66	23 27 17. 42	6
	30	A. 38	27 *f* Atlas	3 41 39. 49	23 25 11. 02	3
December	7	A. 38	27 *f* Atlas	3 41 39. 72	23 25 9. 16	10
	7	* 56	A. 38	3 41 38. 11	23 31 20. 66	5
December	12	* 57	16 *g* Celæno	3 36 47. 47	23 49 13. 05	6
	12	A. 10	16 *g* Celæno	3 38 7. 86	23 48 57. 08	6
	12	* 58	16 *g* Celæno	3 37 25. 31	23 46 40. 90	3
	12	* 59	16 *g* Celæno	3 38 24. 43	23 52 18. 86	1
	12	* 60	16 *g* Celæno	3 36 5. 99	23 57 4. 18	2
	12	* 61	16 *g* Celæno	3 35 23. 81	+ 23 55 44. 56	1

The stars with A prefixed have Bessel's designation. The stars not observed by Bessel are designated by numbers only.

PRÆSEPE.

	DATE.	COMP. STAR.	α 1860.0.	δ 1860.0.	No. of comp.
	1864.		h. m. s.	° ′ ″	
1	Mar. 8	B.	8 27 16.61	+ 20 4 9.7	3
	12	B.	16.61	10.8	3
	April 23	A.	16.54	9.4	3
	Nov. 5	B.	16.67	10.2	3
2	Mar. 8	D.	8 27 41.63	20 15 5.3	2
	8	F.	41.56	3.8	3
	12	A.	41.78	8.8	3
	April 23	D.	41.54	6.2	3
	Dec. 3	H.	41.64	5.1	3
3	Nov. 5	B.	8 27 51.77	19 57 10.9	3
4	Mar. 12	N.	8 28 12.06	20 49 19.0	3
5	Mar. 12	E.	8 28 15.43	20 38 19.6	3
6	Dec. 24	F.	8 28 43.20	20 14 43.8	3
7	Mar. 12	B.	8 28 59.37	20 5 21.8	1
	April 21	K.	59.21	17.6	3
	Nov. 5	B.	59.58	19.8	3
8	Dec. 3	H.	8 29 8.25	20 15 0.0	
9	Nov. 5	B.	8 29 25.69	20 2 52.3	3
10	Oct. 29	C.	8 29 26.93	19 38 46.3	3
	Nov. 1	C.	26.93	45.6	3
11	Mar. 12	G.	8 29 30.02	20 29 53.1	3
	12	G.	29.97	53.8	3
	12	E.	29.71	55.3	3
	April 26	G.	29.73	54.3	3
12	Oct. 29	C.	8 29 41.08	19 37 5.5	3
	Nov. 1	C.	41.18	3.6	3
13	Mar. 24	D.	8 29 59.29	20 5 15.8	3
14	Mar. 24	G.	8 30 0.30	20 37 0.0	3
	April 28	N.	0.17	36 50.1	3
15	Nov. 12	H.	8 30 11.91	20 2 17.6	3
	Nov. 15	B.	11.85	15.4	3
16	April 21	K.	8 30 29.88	19 57 5.3	3
17	Mar. 12	F.	8 30 30.94	20 20 54.9	2
	24	L.	30.82	55.1	3
	April 26	L.	30.88	53.4	3
	Dec. 12	H.	30.82	53.5	3
	24	L.	30.94	51.8	3
18	Mar. 12	G.	8 30 34.28	20 28 37.8	3
	April 26	G.	34.15	37.0	3
19	Nov. 12	B.	8 30 34.07	19 57 8.8	3
20	Nov. 15	D.	8 30 34.84	20 8 7.4	3
21	Mar. 12	H.	8 30 45.04	19 59 20.9	3
	12	B.	45.01	22.5	3
	April 21	K.	44.69	17.9	3
	Nov. 5	B.	44.98	21.7	3
22	Mar. 23	O.	8 30 53.23	19 36 57.3	1
	April 18	O.	53.19	54.5	3
23	Oct. 29	H.	8 30 53.63	19 41 10.4	3
24	Oct. 29	H.	8 30 57.55	19 54 47.7	3
	Nov. 1	H.	57.31	47.6	3
25	Mar. 12	G.	8 31 0.04	20 29 18.0	3
	24	L.	0.09	21.6	3
	April 26	G.	8 31 0.03	+ 20 29 18.6	2
	1864.		h. m. s.	° ′ ″	
26	April 23	A.	8 31 0.22	+ 20 12 50.7	3
	Nov. 24	D.	0.05	49.8	5
27	Mar. 24	G.	8 31 1.39	20 36 2.4	3
28	April 21	K.	8 31 6.62	20 4 53.2	3
	23	D.	6.72	49.0	3
	Nov. 5	B.	7.05	55.8	3
	12	K.	6.61	53.5	3
	15	D.	6.83	51.0	3
29	Nov. 24	D.	8 31 7.53	20 10 1.3	3
30	April 26	G.	8 31 15.52	20 32 34.6	3
	28	G.	15.56	34.8	3
31	Oct. 29	C.	8 31 23.50	19 56 57.7	4
32	April 28	G.	8 31 26.75	20 33 35.1	3
33	Mar. 12	N.	8 31 29.08	20 39 26.5	3
	April 28	N.	29.08	25.5	3
34	May 5	C.	8 31 3[illegible].16	19 47 7.0	3
	Nov. 1	I.	31.18	0.5	3
35	Nov. 1	H.	8 31 41.19	19 48 9.5	3
36	Mar. 23	O.	8 31 42.96	19 41 40.8	12
37	Feb. 18	C.	8 31 43.49	19 45 55.0	3
	Mar. 8	C.	43.49	55.0	3
	24	C.	43.40	56.7	3
	May 5	C.	43.44	55.7	3
	Oct. 29	C.	43.53	57.1	3
	Nov. 5	I.	43.43	57.0	3
38	Nov. 1	I.	8 31 44.37	19 51 28.7	3
39	Mar. 8	B.	8 31 48.79	20 1 56.9	3
	12	B.	48.80	56.1	3
	24	C.	48.71	55.7	3
	24	B.	48.80	56.6	3
	April 21	K.	48.51	53.4	3
	Nov. 12	K.	48.44	54.3	3
40	May 5	H.	8 31 51.04	19 48 14.0	3
	Nov. 1	I.	51.08	11.6	3
41	April 28	G.	8 31 51.50	20 33 23.9	3
42	April 28	N.	8 31 54.33	20 39 23.2	3
43	April 28	H.	8 31 55.59	20 31 24.9	3
44	April 21	K.	8 31 55.64	20 1 56.3	3
	Nov. 5	B.	55.92	59.9	3
	Nov. 12	K.	55.53	56.5	3
45	Nov. 15	D.	8 31 56.38	20 9 33.9	3
	Nov. 24	D.	56.50	35.1	3
46	Oct. 29	C.	8 31 57.18	19 41 32.2	3
47	Dec. 3	F.	8 31 57.96	20 17 53.1	3
48	Nov. 24	D.	8 32 2.38	20 13 14.6	3
	Dec. 3	F.	2.45	13.6	2
49	Nov. 12	K.	8 32 4.33	19 56 42.1	3
50	Nov. 1	I.	8 32 5.00	19 47 55.9	3
51	Nov. 15	K.	8 32 8.38	19 55 57.8	3
52	Nov. 15	D.	8 32 10.08	20 7 52.2	3
	Nov. 24	D.	8 32 10.18	+ 20 7 50.3	3

	DATE.	COMP. STAR.	α 1860. 0.	δ 1860. 0.	No. of comp.
			PRÆSEPE.		
	1864.		h. m. s.	° ′ ″	
53	April 28	G.	8 32 12. 13	+ 20 29 9. 0	3
54	Dec. 3	F.	8 32 15. 06	20 16 46. 8	3
55	April 21	K.	8 32 16. 00	20 1 25. 6	3
	Nov. 5	B.	16. 31	27. 8	3
	Nov. 12	K.	16. 07	25. 8	3
56	April 18	O.	8 32 18. 10	19 46 12. 9	3
57	Nov. 15	D.	8 32 18. 35	20 10 43. 2	3
	Nov. 29	D.	18. 37	42. 4	3
	Dec. 3	F.	18. 42	42. 7	3
58	Mar. 8	D.	8 32 19. 70	20 9 43. 5	3
	24	D.	19. 71	43. 0	3
	24	A.	19. 96	46. 4	3
	April 21	K.	19. 60	46. 3	3
	23	D.	19. 66	42. 9	3
	23	A.	19. 87	44. 7	3
	23	F.	19. 71	40. 6	3
	Nov. 15	D.	19. 64	43. 0	3
	24	D.	19. 69	43. 9	3
	29	D.	19. 71	42. 6	3
59	Mar. 12	A.	8 32 20. 85	20 19 44. 5	3
	24	L.	20. 69	39. 9	3
	April 26	L.	20. 58	38. 3	3
	Dec. 3	F.	20. 69	39. 2	3
60	April 23	F.	8 32 21. 20	20 10 41. 9	3
61	Mar. 12	C.	8 32 23. 75	19 58 6. 6	3
	Nov. 12	R.	23. 71	2. 7	3
62	April 28	N.	8 32 22. 63	20 40 22. 2	3
63	Nov. 24	D.	8 32 23. 72	20 10 42. 4	3
64	Mar. 24	B.	8 32 25. 21	20 2 17. 3	3
	April 21	K.	24. 95	14. 0	6
	23	F.	24. 93	9. 7	3
	Nov. 12	K.	24. 84	13. 7	3
65	Oct. 29	C.	8 32 32. 23	19 41 12. 5	3
66	Mar. 23	O.	8 32 37. 90	19 38 59. 9	3
67	Feb. 18	C.	8 32 38. 23	19 43 15. 5	3
	Mar. 8	C.	38. 30	16. 9	3
68	Mar. 8	F.	8 32 40. 73	20 12 44. 0	1
	April 23	F.	40. 76	41. 8	3
	Nov. 24	D.	40. 68	44. 3	3
	29	D.	40. 78	45. 4	3
69	May 5	C.	8 32 45. 00	19 48 9. 5	5
	Oct. 29	C.	45. 12	10. 3	3
	Nov. 5	I.	44. 99	10. 4	3
70	Nov. 15	K.	8 32 44. 96	20 2 11. 4	3
71	Mar. 12	E.	8 32 48. 19	20 45 39. 2	3
	12	N.	48. 26	32. 3	3
72	Mar. 8	B.	8 32 54. 46	20 4 30. 1	3
	12	B.	54. 52	30. 1	3
	April 21	K.	54. 16	26. 6	3
	21	K.	54. 21	25. 5	3
	Nov. 5	B.	54. 39	27. 5	3
	5	B.	54. 56	29. 5	3
	12	K.	54. 19	26. 8	3
	24	K.	54. 18	26. 5	3
73	Mar. 12	G.	8 32 53. 94	20 25 41. 3	3
	24	F.	53. 96	47. 5	3
	24	L.	54 01	44. 0	3
	April 26	L.	53. 95	45. 4	3
	28	G.	53. 96	42. 0	3
	Dec. 24	L.	8 32 53. 91	+ 20 25 46. 0	3
			PRÆSEPE.		
	1864.		h. m. s.	° ′ ″	
74	Nov. 15	K.	8 33 2. 67	+ 20 0 58.9	3
75	Dec. 3	F.	8 33 6. 98	20 20 56.0	3
	24	F.	6. 78	59.5	3
76	April 26	L.	8 33 8. 02	20 19 26.7	3
	Dec. 3	F.	8. 04	25.9	3
	24	F.	8. 00	26.9	3
77	Nov. 12	B.	8 33 8. 54	20 0 13.3	3
78	Mar. 8	F.	8 33 11. 09	20 25 2.9	1
	12	G.	10. 80	24 57.5	3
	April 26	L.	10. 84	25 1.6	3
	26	L.	10. 84	1.1	3
79	April 18	O.	8 33 16. 97	19 41 3.7	2
80	Feb. 18	C.	8 33 17. 48	19 45 18.5	3
	Oct. 29	C.	17. 47	21.7	3
	Nov. 5	I.	17. 56	22.1	3
81	April 21	K.	8 33 25. 21	20 2 12.9	3
	Nov. 5	B.	25. 55	17.4	3
82	Mar. 8	D.	8 33 32. 76	20 9 27.9	3
	12	A.	32. 92	31.3	3
	24	D.	32. 76	27.2	3
	24	A.	32. 96	30.5	3
	April 23	D.	32. 72	28.7	3
	Nov. 15	D.	32. 76	27.4	3
	24	D.	32. 78	27.5	3
83	April 23	A.	8 33 40. 44	20 9 24.8	3
	Nov. 24	D.	40. 23	22.2	3
84	Mar. 24	C.	8 33 44. 72	19 45 47.6	3
	May 5	C.	44. 73	46.8	3
	Oct. 29	C.	44. 79	47.0	3
85	Mar. 12	E.	8 33 49. 37	20 39 21.4	3
	12	N.	49. 39	15.0	3
	24	G.	49. 71	23.7	2
	April 28	N.	49. 39	13.5	3
86	Nov. 12	K.	8 34 3. 27	20 5 48.8	3
87	Mar. 23	O.	8 34 4. 68	19 50 13.0.	11
88	Feb. 18	C.	8 34 5. 27	19 54 30.0	3
	Mar. 8	C.	5. 41	31.0	3
	12	C.	5. 26	29.9	3
	24	C.	5. 29	29.5	3
	24	B.	5. 39	30.7	3
	Nov. 5	I.	5. 28	30.8	3
89	Mar. 8	B.	8 34 5. 34	19 58 50.0	3
90	Dec. 24	F.	8 34 15. 34	20 13 11.0	3
91	Mar. 12	G.	8 34 17. 07	20 32 3.2	3
	April 26	G.	16. 99	3.6	3
92	Nov. 5	B.	8 34 39. 45	20 2 30.5	3
93	Mar. 8	D.	8 34 42. 82	20 4 40.8	3
	12	B.	42. 97	45.6	3
	24	D.	42. 81	41.0	3
	April 21	K.	42. 72	41.7	3
	Nov. 5	B.	43. 04	43.0	3
94	Nov. 15	K.	8 34 46. 56	19 57 54.8	3
95	Mar. 12	C.	8 35 4. 73	19 56 15.5	3
	Nov. 24	K.	4. 75	11.8	3
96	Mar. 12	E.	8 35 32. 09	20 41 27.7	3
97	Mar. 12	E.	8 36 24. 47	+ 20 42 25.5	3

MEAN PLACES FOR 1860.0

OF

COMPARISON STARS,

USED IN

OBSERVATIONS WITH THE EQUATORIAL,

1864.

MEAN PLACES FOR 1860.0

OF STARS OF COMPARISON, OBSERVED WITH ASTEROIDS AND COMETS, 1864.

MEAN PLACES FOR 1860.0 OF COMPARISON STARS.

STAR.	MAG.	α	AUTHORITY.	δ	AUTHORITY.
			EGERIA.		
		h. m. s.		° ′ ″	
Oeltzen N. 8459	9	7 49 35.84	Oeltzen N.	+ 46 59 44.89	M. 3.
Oeltzen N. 8445	9	7 48 23.19	Oeltzen N.	47 10 55.50	M. 1.
Radcliffe 2048	6.5	7 44 17.63	Radcliffe Catalogue	+ 47 44 39.30	M. 3.
			EURYNOME.		
Weisse I, 269	9	1 17 6.60	Weisse Catalogue	+ 5 45 14.70	M. 1.
Weisse I, 328	8	1 20 2.41	Weisse Catalogue and Rumker C.	6 14 5.11	Weisse Cat. and Rumker Cat.
Weisse I, 1022	8	1 57 57.12	Weisse Catalogue	9 24 15.74	Weisse Catalogue.
Weisse II, 615	8	2 36 6.93	T. 1	12 41 35.60	M. 1.
Weisse II, 746	9	2 43 49.48	T. 2	12 54 48.10	M. 1.
Weisse II, 841	9	2 48 32.02	Weisse Catalogue	13 20 50.00	M. 1.
(* 132) W.	9.5	2 52 6.90	Washington Equatorial	13 45 8.69	Washington Equatorial.
Weisse 2, IV, 65	. . .	4 4 35.33	T. 1	17 28 15.43	M. 1.
Weisse IV, 183	. . .	4 9 55.84	Weisse Catalogue	+ 17 54 37.17	Weisse Catalogue.
			COMET, 1863, VI. RESPIGHI.		
Oeltzen N. 23385	7	22 0 50.36	Oeltzen N.	+ 52 56 34.50	M. 1.
Oeltzen N. 24533	8	22 35 53.60	Oeltzen N.	53 39 21.20	M. 2.
Radcliffe 6067	8	23 18 29.63	T. 1	54 19 0.84	Radcliffe Catalogue.
Radcliffe 6081	9	23 20 39.64	T. 1	54 5 42.44	Radcliffe Catalogue.
Oeltzen N. 26423	8	0 0 48.73	Oeltzen N.	53 1 8.74	M. 2.
B. Z. 398, 17	9	3 39 2.81	Weisse Catalogue	28 57 21.59	M. 1.
ω Tauri	5	4 9 3.75	T. 1	20 13 51.24	M. 2.
(* 128) W.	9	4 40 48.12	Washington Equatorial	10 42 54.98	M. 1.
Weisse IV, 1028	8	4 47 19.71	Weisse Catalogue	8 22 10.00	M. 2.
(* 129) W.	9	4 54 37.80	Washington Equatorial	5 55 19.60	Washington Equatorial.
Weisse V, 55	8	5 4 20.19	Weisse Catalogue	4 14 1.49	M. 2.
(* 130) W.	9	5 6 29.39	Washington Equatorial	2 10 48.84	Washington Equatorial.
(* 131) W.	9	5 12 12.68	Washington Equatorial	+ 0 58 21.70	M. 1.
			CONCORDIA.		
Weisse 2, VIII, 490	9	8 21 35.03	Weisse Catalogue	+ 16 40 19.47	M. 1.
			PHOCÆA.		
Oeltzen S. 12629	7.5	12 57 36.87	T. 1	— 16 55 20.20	M. 1.
Weisse XII, 834	8	12 49 5.52	Weisse Catalogue	14 11 17.68	M. 1.
Weisse XII, 857	8	12 50 35.25	Weisse Catalogue	13 35 14.50	M 2.
Weisse XII, 743	8.5	12 43 59.66	Weisse Catalogue	12 42 42.11	Weisse Catalogue.
Weisse XII, 728	8	12 43 10.81	T. 1	— 12 16 16.33	M. 1.
			EUROPA.		
Weisse XIII, 354	8	13 22 25.98	Weisse Catalogue	+ 2 26 4.65	M. 1.
Weisse XIII, 303	9	13 19 26.39	Weisse Catalogue	+ 2 27 46.56	Weisse Catalogue.
			CIRCE.		
Weisse XIV, 1149	8	15 1 18.21	Weisse Catalogue	— 11 15 3.90	M. 1.
Weisse XV, 3	9	15 2 1.34	Weisse Catalogue	11 2 16.10	M. 2.
Weisse XIV, 1048	8	14 56 18.86	Weisse Catalogue	— 10 27 4.38	M. 2.
			THETIS.		
Weisse XV, 444	8	15 24 43.14	T. 1	— 9 6 24.90	M. 1.

MEAN PLACES FOR 1860.0 OF COMPARISON STARS.

STAR.	MAG.	α	AUTHORITY.	δ	AUTHORITY.
			BELLONA.		
Weisse XVI, 845	8	16 44 21.44	T. 1	— 8 37 22.91	M. 2.
Weisse XVI, 539	7	16 28 55.02	Weisse Catalogue	— 8 33 48.59	M. 3.
			JUNO.		
B. A. C. 5724	6	16 53 40.75	Rumker Catalogue	— 4 0 32.64	M. 2.
Weisse XVI, 958	8	16 50 55.68	T. 1	— 4 7 21.34	M. 2.
			EUNOMIA.		
Oeltzen S. 19909	7	19 36 16.77	Oeltzen S.	— 23 25 36.24	M. 2.
B. A. C. 6607	6	19 12 14.60	T. 1. B. A. Catalogue	— 22 39 31.23	M. 3.
			VICTORIA.		
B. A. C. 6564	5	19 5 5.01	T. 1	— 8 10 10.65	M. 3.
Weisse XVIII, 1398	9	18 55 29.47	Weisse Catalogue	7 32 43.92	M. 3.
Weisse XVIII, 1412	9	18 55 55.34	T. 1	— 7 33 51.11	M. 3.
			PSYCHE.		
Oeltzen S. 20423	8	20 12 57.22	Oeltzen S.	— 17 16 1.54	M. 3.
Oeltzen S. 20294	9	20 3 14.55	Oeltzen S.	— 18 13 51.80	M. 2.
			ARIADNE.		
Weisse XXI, 1085	9	21 46 34.42	Weisse Catalogue	— 7 10 20.45	M. 1.
			CALYPSO.		
Weisse XXI, 1106	8.5	21 47 29.53	Weisse Catalogue	— 12 37 50.81	Weisse Catalogue.
Weisse XXI, 739	8	21 31 37.10	Weisse Catalogue	14 41 17.84	Weisse Catalogue.
Oeltzen S. 21480	9	21 26 52.75	Oeltzen S.	— 15 14 55.30	M. 1.
			COMET, 1864, I.		
Weisse XIII, 81	8	13 6 8.42	Weisse Catalogue	— 2 45 1.14	M. 2.
Weisse XIII, 676	9	13 39 59.37	Weisse Catalogue	7 47 58.22	M. 1.
Weisse XIV, 199	7	14 11 58.99	Weisse Catalogue	13 3 43.71	M. 1.
Weisse XIV, 293	7.5	14 16 59.25	Weisse Catalogue	13 26 36.14	M. 1.
Weisse XIV, 316	8.5	14 17 47.66	Weisse Catalogue	— 13 27 4.04	M. 1.
			PALLAS.		
B. A. C. 7827	6	22 20 46.23	T. 1	+ 3 59 41.77	M. 2.
Weisse XXII, 153	9	22 8 27.24	Weisse Catalogue	1 15 12.23	M. 1.
Weisse XXII, 113	9	22 6 42.15	Weisse Catalogue	+ 0 53 4.61	M. 1.
			ISIS.		
Oeltzen S. 22373	9	22 36 46.76	T. 1	— 27 1 30.20	M. 1.
Wash. Z. LIV, 17	8	22 30 36.46	Washington Zones of 1846	— 27 35 44.49	M. 1.
			METIS.		
Weisse O, 845	7	0 48 54.12	T. 1	— 4 29 49.88	Weisse Catalogue.
Weisse O, 836	8.5	0 48 35.01	Weisse Catalogue	— 4 45 9.77	Weisse Catalogue.
			ATALANTA.		
Oeltzen S. 21903	9	21 59 54.92	Oeltzen S.	— 25 22 37.38	M. 2.
			HARMONIA.		
Weisse I, 389	9	1 23 28.17	Weisse Catalogue	+ 0 38 8.75	Weisse Catalogue.
Weisse O, 1041	8.5	0 59 15.46	Weisse Catalogue	— 1 29 52.86	Weisse Catalogue.
Weisse O, 1054	9	0 59 55.84	Weisse Catalogue	— 1 20 24.18	Weisse Catalogue.
			ECHO.		
Weisse II, 61	8.5	2 5 19.67	T. 1	+ 11 12 4.02	M. 2.
Weisse I, 1045	8.5	1 59 13.03	Weisse Catalogue	9 48 28.88	M. 1.
Weisse I, 880	9	1 50 2.15	Weisse Catalogue	9 11 59.03	M. 3.
Weisse I, 820	9	1 46 4.95	Weisse Catalogue	8 33 38.35	Weisse Catalogue.
* Rumker N. F. 928	9	1 43 43.61	Rumker. Neue Folge	+ 7 51 19.10	M. 1.

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* This star is Weisse I, 772. The α in Weisse is 10s. too small.

MEAN PLACES FOR 1860.0 OF COMPARISON STARS.

STAR.	MAG.	α	AUTHORITY.	δ	AUTHORITY.
			CERES.		
Weisse I, 402	8	1 24 5.15	Weisse Catalogue	− 6 16 1.94	M. 1.
Weisse I, 381	7	1 22 49.99	Weisse Catalogue	− 6 19 13.02	M. 1.
			AMPHITRITE.		
Weisse II, 805 . . .	8.5	2 33 32.62	Weisse Catalogue	+ 21 38 33.50	M. 2.
			CYBELE.		
Weisse III, 139 . . .	9	3 8 41.60	Weisse Catalogue	+ 13 19 52.67	M. 1.
Weisse III, 168 . . .	8	3 10 8.73	Weisse Catalogue	13 19 54.59	M. 2.
B. A. C. 987	6.5	3 3 40.91	B. A. Catalogue	12 30 52.67	M, 3.
Weisse II, 1001 . . .	. . .	2 57 18.20	Weisse Catalogue	+ 12 6 45.74	M. 2.
			FIDES.		
Weisse 2, IV, 1261 . .	8	4 55 53.11	Weisse Catalogue	+ 27 29 43.82	Weisse Catalogue.
Weisse 2, IV, 1047 . .	9	4 47 10.53	Weisse Catalogue	+ 27 36 35.71	M. 2.
			FORTUNA.		
Rumker 1473	8.7	5 27 3.34	Rumker Catalogue	+ 21 6 30.54	M. 1.
Σ. Cat G. 599 . . .	9	5 28 3.03	T. 1	21 5 35.86	M. 1.
Weisse 2, V, 478 . . .	9	5 17 30.45	T. 1	+ 21 0 13.78	M. 2.
			EUTERPE.		
Σ. Cat. Gen. 825, p. . .	9	7 3 36.68	Struve Cat. Gen.	+ 22 30 27.72	Struve Catalogue Gen.
ω^2 Geminorum	7	6 56 52.72	T. 1	+ 22 50 38.90	M. 1.
			TERPSICHORE.		
Weisse O, 247 . . .	9	0 14 47.46	Weisse Catalogue	+ 6 14 7.68	M. 2.
Weisse O, 302 . . .	7	0 18 28.53	Weisse Catalogue	+ 6 55 2.70	M. 1.
			* PLEIADES.		
η Tauri	. . .	3 39 10.031	Washington Observatory . . .	+ 23 40 10.114	Washington Observatory.
23 *d* Merope	. . .	3 38 1.533	Washington Observatory . . .	23 30 34.27	Washington Observatory.
A. 23	. . .	3 39 9.72	Washington Observatory . . .	23 14 28.59	Washington Observatory.
A. 26	. . .	3 39 25.06	Washington Observatory . . .	23 6 22.56	Washington Observatory.
16 *g* Celæno	. . .	3 36 29.27	Washington Observatory . . .	23 50 45.74	Washington Observatory.
27 *f* Atlas	. . .	3 40 50.59	Washington Observatory . . .	23 37 20.05	Washington Observatory.
A. 38	. . .	3 41 38.11	Washington Observatory . . .	+ 23 31 20.66	Washington Observatory.

* The places of comparison stars for the Pleiades are all derived from η Tauri, by means of equatorial observations, made either in the present year or in 1863.

The stars marked M. T. have the places opposite to them as determined by the Transit and Mural of the Observatory. The following numerals indicate the number of observations. The places of all the stars of comparison have been determined in the same manner in this or the neighboring years. But the reductions had not been completed time enough to be used in the results as given in the preceding tables.

The right ascensions of all the stars as observed in the Transit are given in the List, page 390, by help of which the corrections necessary for the differences between the catalogue and observed places may be readily applied.

POSITIONS FOR 1860.0 OF STANDARD STARS USED IN OBSERVATIONS OF PRÆSEPE, 1864.

STAR.	MAG.	α	δ
		h. m. s.	° ′ ″
A	8	8 29 34.10	+ 20 13 7.5
B	8	29 38.50	20 0 14.6
C	7	29 45.22	19 45 9.0
D	8	31 3.47	20 9 56.0
E	8	31 38.84	20 34 37.2
F	7	31 39.90	20 16 8.2
G	7	32 3.00	20 29 57.3
H	7	32 8.09	20 27 45.4
I	7	32 18.78	19 50 29.4
K	8	31 54.27	20 2 38.7
L	7.5	33 47.38	20 22 13.6
M	9	34 17.78	20 40 45.9
N	8	8 30 18.10	+ 20 41 32.7

RIGHT ASCENSIONS OF STARS OF COMPARISON

AS DETERMINED BY

OBSERVATIONS OF THE TRANSIT INSTRUMENT.

STAR.	α	No. of obs.
EGERIA.	h. m. s.	
Oeltzen N. 8459	7 49 36.19	1
EURYNOME.		
Weisse I, 269	1 17 6.90	5
Weisse I, 328	1 20 2.56	5
Weisse I, 1022	1 57 56.78	3
Weisse II, 615	2 36 6.96	3
Weisse II, 746	2 43 49.46	3
Weisse II, 841	2 48 31.85	5
(* 132)	2 52 7.48	1
Weisse 2, IV, 65	4 4 35.26	2
Weisse 2, IV, 183	4 9 55.87	4
COMET, 1863, VI.		
Oeltzen N. 23385	22 0 50.22	3
Oeltzen N. 24533	22 35 53.47	4
Radcliffe 6067	23 18 29.67	3
Radcliffe 6081	23 20 39.73	3
Oeltzen N. 26423	0 0 48.71	3
B. Z. 398, 17	3 39 2.86	3
ω Tauri	4 9 3.67	1
(* 128) W.	4 40 48.08	2
Weisse IV, 1028	4 47 19.68	2
(* 129) W.	4 54 38.07	4
Weisse V, 55	5 4 20.85	2
(* 130) W.	5 6 28.85	2
(* 131) W.	5 12 12.07	1
CONCORDIA.		
Weisse VIII, 490	8 21 34.89	1
PHOCÆA.		
Oeltzen S. 12629	12 57 36.77	2
Weisse XII, 834	12 49 5.31	3
Weisse XII, 857	12 50 35.43	1
Weisse XII, 743	12 43 59.52	1
Weisse XII, 728	12 43 9.81	2
EUROPA.		
Weisse XIII, 354	13 22 25.63	5
Weisse XIII, 303	13 19 26.34	2
CIRCE.		
Weisse XIV, 1149	15 1 18.30	2
Weisse XV, 3	15 2 1.01	2
THETIS.		
Weisse XV, 444	15 24 43.08	2
BELLONA.		
Weisse XVI, 539	16 28 54.94	6
JUNO.		
B. A. C. 5724	16 53 40.70	2
Weisse XVI, 958	16 50 55.78	2

STAR.	α	No. of obs.
EUNOMIA.	h. m. s.	
Oeltzen S. 19909	19 36 16.80	1
VICTORIA.		
B. A. C. 6564	19 5 5.03	3
Weisse XVIII, 1398	18 55 29.47	7
Weisse XVIII, 1412	18 55 55.48	4
PSYCHE.		
Oeltzen S. 20423	20 12 57.08	3
Oeltzen S. 20294	20 3 14.39	2
ARIADNE.		
Weisse XXI, 1085	21 46 34.89	1
CALYPSO.		
Weisse XXI, 1106	21 47 29.52	5
Weisse XXI, 739	21 31 36.81	2
Oeltzen S. 21480	21 26 52.90	1
COMET, 1864, I.		
Weisse XIII, 81	13 6 8.20	1
Weisse XIV, 199	14 11 58.31	3
Weisse XIV, 293	14 16 59.80	5
Weisse XIV, 316	14 17 47.71	1
PALLAS.		
B. A. C. 7827	22 20 46.39	1
Weisse XXI, 153	22 8 26.83	3
Weisse XXI, 113	22 6 41.84	6
ISIS.		
Oeltzen S. 22373	22 36 46.98	4
Washington Z. LIV, 17	22 30 36.63	4
METIS.		
Weisse O, 845	0 48 54.77	3
Weisse O, 836	0 48 34.80	3
ATALANTA.		
Oeltzen S. 21903	21 59 54.65	4
HARMONIA.		
Weisse I, 389	1 23 20.06	5
Weisse O, 1041	0 59 15.69	3
Weisse O, 1054	0 59 55.24	2
ECHO.		
Weisse II, 61	2 5 19.74	1
Weisse I, 1045	1 59 12.88	2
Weisse I, 880	1 50 2.14	1
Weisse I, 820	1 46 4.85	4
Rumker N. F. 928	1 43 3.84	3

STAR.	α	No. of obs.
CERES.	h. m. s.	
Weisse I, 402	1 24 5.12	4
Weisse I, 381	1 22 50.12	4
AMPHITRITE.		
Weisse II, 805	2 33 32.50	1
CYBELE.		
Weisse III, 139	3 8 41.60	1
Weisse III, 168	3 10 8.44	2
B. A. C. 987	3 3 40.59	3
Weisse II, 1001	2 57 18.19	3
FIDES.		
Weisse 2, IV, 1261	4 55 53.09	2
Weisse 2, IV, 1047	4 47 11.38	2
FORTUNA.		
Rumker 1473	5 27 3.33	2
Σ. Cat. Gen. 599	5 28 1.08	3
Weisse 2, V, 478	5 17 30.40	2
EUTERPE.		
Σ. Cat. Gen. 825, p.	7 3 36.75	2
ω^2 Geminorum	6 56 52.61	3
TERPSICHORE.		
Weisse O, 247	0 14 47.74	5
Weisse O, 302	0 18 28.99	7

CONSTANTS FOR THE REDUCTION OF FIXED STARS.

These constants are prepared from the Logarithms A, B, C, and D, of the American Ephemeris and Nautical Almanac for the year 1864. The epoch to which the observations are reduced by them is 1860.0. The instant, 1860.0, is assumed to be January 0*d*.414, mean time, Washington, the moment when the Sun's mean longitude was 280°. The notation and form of publication is similar to that published in volume III of the Washington Observations, and the auxiliary tables used in the reductions are similar to those of that volume.

CONSTANTS FOR THE REDUCTION OF FIXED STARS.

EPOCH MEAN MIDNIGHT, WASHINGTON.

DATE.	SID. T.	G.	H.		LOG. *g*.		LOG. *h*.	LOG. *i*.		*f*.		*t*.	*p*.	☽
1864.	h.	h. m. s.	h. m. s.							s.		y.		°
Jan. 1	6.74	12 15 12	11 19 4	226	1.93651	35	1.3093	0.1963	367	— 13.205	11	— 4.003	.0117	190
2	6.81	12 15 11	11 15 18	226	1.93686	34	1.3091	0.2330	343	13.216	11	4.006	.0117	203
3	6.88	12 15 10	11 11 32	226	1.93720	34	1.3088	0.2673	320	13.227	10	4.009	.0117	216
4	6.95	12 15 9	11 7 46	227	1.93754	34	1.3085	0.2993	298	13.237	10	4.011	.0117	229
5	7.02	12 15 8	11 3 59	227	1.93788	33	1.3082	0.3291	278	13.247	10	4.014	.0117	243
6	7.08	12 15 7	11 0 12	227	1.93821	34	1.3079	0.3569	257	13.257	11	4.017	.0117	257
7	7.15	12 15 5	10 56 25	228	1.93855	33	1.3076	0.3826	241	13.268	10	4.019	.0118	272
8	7.21	12 15 4	10 52 37	228	1.93888	33	1.3072	0.4067	228	13.278	10	4.022	.0118	287
9	7.27	12 15 2	10 48 49	228	1.93921	33	1.3068	0.4295	215	13.288	10	4.024	.0118	302
10	7.33	12 15 1	10 45 1	229	1.93954	33	1.3064	0.4510	203	13.298	10	4.027	.0118	317
11	7.40	12 14 59	10 41 12	229	1.93987	32	1.3060	0.4713	192	13.308	10	4.030	.0118	333
12	7.46	12 14 57	10 37 23	230	1.94019	32	1.3056	0.4905	183	13.318	9	4.033	.0118	347
13	7.53	12 14 56	10 33 33	230	1.94051	31	1.3052	0.5088	175	13.327	10	4.036	.0119	2
14	7.59	12 14 54	10 29 43	231	1.94082	31	1.3047	0.5263	167	13.337	10	4.038	.0119	16
15	7.66	12 14 52	10 25 52	232	1.94113	31	1.3042	0.5430	159	13.347	10	4.041	.0119	29
16	7.72	12 14 50	10 22 0	232	1.94144	31	1.3037	0.5589	156	13.357	9	4.044	.0119	42
17	7.79	12 14 48	10 18 8	232	1.94175	30	1.3032	0.5740	145	13.366	10	4.047	.0119	55
18	7.85	12 14 46	10 14 16	233	1.94205	31	1.3027	0.5885	139	13.376	10	4.050	.0119	67
19	7.92	12 14 44	10 10 23	233	1.94236	30	1.3022	0.6024	134	13.386	10	4.052	.0120	79
20	7.99	12 14 42	10 6 30	234	1.94266	30	1.3016	0.6158	129	13.396	9	4.055	.0120	91
21	8.06	12 14 40	10 2 36	234	1.94296	29	1.3010	0.6287	124	13.405	9	4.058	.0120	103
22	8.12	12 14 37	9 58 42	235	1.94325	29	1.3004	0.6411	117	13.414	9	4.060	.0120	115
23	8.19	12 14 35	9 54 47	235	1.94354	29	1.2998	0.6528	114	13.423	9	4.063	.0120	127
24	8.26	12 14 33	9 50 52	236	1.94383	29	1.2992	0.6642	112	13.432	9	4.065	.0120	139
25	8.32	12 14 30	9 46 56	236	1.94412	28	1.2986	0.6754	105	13.441	9	4.068	.0120	151
26	8.39	12 14 28	9 43 0	237	1.94440	27	1.2980	0.6859	101	13.450	9	4.071	.0120	163
27	8.45	12 14 25	9 39 3	238	1.94467	27	1.2973	0.6960	98	13.459	9	4.074	.0120	175
28	8.52	12 14 23	9 35 5	238	1.94494	27	1.2967	0.7058	95	13.468	8	4.076	.0121	187
29	8.58	12 14 21	9 31 7	239	1.94521	27	1.2960	0.7153	91	13.476	9	4.079	.0121	199
30	8.64	12 14 18	9 27 8	240	1.94548	26	1.2954	0.7244	88	13.485	8	4.082	.0121	211
31	8.71	12 14 16	9 23 8	241	1.94574	26	1.2948	0.7332	84	13.493	8	4.085	.0121	224
Feb. 1	8.77	12 14 14	9 19 7	242	1.94600	26	1.2941	0.7416	82	13.501	8	4.088	.0121	238
2	8.83	12 14 11	9 15 5	242	1.94626	26	1.2935	0.7498	80	13.509	8	4.090	.0122	251
3	8.90	12 14 8	9 11 3	243	1.94652	25	1.2928	0.7578	76	13.517	8	4.093	.0122	265
4	8.97	12 14 6	9 7 0	244	1.94677	25	1.2922	0.7654	74	13.525	8	4.096	.0122	280
5	9.04	12 14 3	9 2 56	244	1.94702	24	1.2915	0.7728	71	13.533	8	4.099	.0122	295
6	9.10	12 14 1	8 58 52	244	1.94726	24	1.2909	0.7799	69	13.541	8	4.102	.0122	310
7	9.17	12 13 59	8 54 48	245	1.94750	24	1.2902	0.7868	66	13.549	8	4.104	.0123	326
8	9.23	12 13 56	8 50 43	245	1.94774	24	1.2896	0.7934	62	13.557	7	4.107	.0123	341
9	9.30	12 13 54	8 46 38	246	1.94798	23	1.2889	0.7996	63	13.564	7	4.110	.0123	356
10	9.36	12 13 52	8 42 32	247	1.94821	23	1.2882	0.8059	59	13.571	7	4.113	.0123	10
11	9.43	12 13 49	8 38 25	248	1.94844	22	1.2876	0.8118	57	13.578	7	4.115	.0123	24
12	9.50	12 13 47	8 34 17	249	1.94866	22	1.2869	0.8175	55	13.585	7	4.118	.0124	38
13	9.56	12 13 45	8 30 8	250	1.94888	22	1.2863	0.8230	53	13.592	7	4.120	.0124	51
14	9.63	12 13 43	8 25 58	250	1.94910	22	1.2856	0.8283	51	13.599	7	4.123	.0124	64
15	9.69	12 13 41	8 21 48	251	1.94932	21	1.2850	0.8334	48	13.606	7	4.126	.0124	76
16	9.77	12 13 39	8 17 37	251	1.94953	21	1.2844	0.8382	47	13.613	7	4.129	.0124	88
17	9.83	12 13 37	8 13 26	251	1.94974	21	1.2838	0.8429	45	13.620	7	4.131	.0124	100
18	9.89	12 13 35	8 9 15	251	1.94995	21	1.2832	0.8474	43	13.627	6	4.134	.0124	112
19	9.96	12 13 33	8 5 4	252	1.95016	20	1.2826	0.8517	42	13.633	6	4.137	.0124	124
20	10.02	12 13 31	8 0 52	253	1.95036	20	1.2820	0.8559	41	13.639	7	4.140	.0124	136
21	10.09	12 13 30	7 56 39	253	1.95056	19	1.2814	0.8600	39	13.646	6	4.142	.0125	148
22	10.15	12 13 28	7 52 26	254	1.95075	19	1.2809	0.8639	36	13.652	6	4.145	.0125	160
23	10.22	12 13 26	7 48 12	256	1.95094	19	1.2803	0.8675	35	13.658	6	4.148	.0125	172
24	10.29	12 13 25	7 43 56	256	1.95113	19	1.2798	0.8710	33	13.664	6	4.151	.0125	184
25	10.35	12 13 23	7 39 40	255	1.95132	19	1.2793	0.8743	32	13.670	6	4.154	.0125	196
26	10.42	12 13 22	7 35 25	256	1.95151	19	1.2788	0.8775	30	13.676	6	4.157	.0125	209
27	10.48	12 13 20	7 31 9	256	1.95170	18	1.2783	0.8805	28	13.682	6	4.159	.0126	221
28	10.55	12 13 19	7 26 53	256	1.95188	18	1.2778	0.8833	27	13.688	6	4.162	.0126	234
29	10.62	12 13 17	7 22 37		1.95206		1.2774	0.8860		— 13.694		— 4.164	.0126	247

EPOCH MEAN MIDNIGHT, WASHINGTON.

Date.	Sid. T.	G.	H.		Log g..		Log. h.	Log. i.		f.		t.	p.	☽
1864.	h.	h. m. s.	h. m. s.							s.		y.		°
March 1	10.69	12 13 16	7 18 20	257	1.95224	18	1.2770	0.8886	26	— 13.699	6	— 4.167	.0126	261
2	10.75	12 13 15	7 14 3	258	1.95242	18	1.2766	0.8910	22	13.705	6	4.170	.0126	275
3	10.82	12 13 15	7 9 45	258	1.95260	18	1.2762	0.8932	19	13.711	6	4.172	.0126	289
4	10.88	12 13 14	7 5 27	259	1.95278	17	1.2758	0.8953	20	13.717	5	4.175	.0127	304
5	10.95	12 13 13	7 1 8	260	1.95295	17	1.2755	0.8973	19	13.722	7	4.178	.0127	319
6	11.02	12 13 12	6 56 48	261	1.95312	17	1.2752	0.8992	17	13.729	6	4.181	.0127	334
7	11.08	12 13 12	6 52 27	260	1.95329	17	1.2749	0.9009	15	13.735	5	4.184	.0127	349
8	11.15	12 13 12	6 48 7	259	1.95346	17	1.2746	0.9024	14	13.740	6	4.186	.0128	4
9	11.21	12 13 11	6 43 48	259	1.95363	17	1.2743	0.9038	12	13.746	4	4.189	.0128	19
10	11.27	12 13 11	6 39 29	259	1.95380	17	1.2741	0.9050	12	13.750	4	4.192	.0128	33
11	11.34	12 13 11	6 35 10	260	1.95397	17	1.2739	0.9062	11	13.754	5	4.195	.0128	47
12	11.40	12 13 11	6 30 50	259	1.95414	17	1.2737	0.9073	9	13.759	5	4.197	.0128	60
13	11.47	12 13 10	6 26 31	259	1.95431	16	1.2735	0.9082	7	13.764	5	4.200	.0129	73
14	11.54	12 13 10	6 22 12	260	1.95447	16	1.2734	0.9089	5	13.769	5	4.202	.0129	85
15	11.60	12 13 11	6 17 52	260	1.95463	16	1.2733	0.9094	3	13.774	6	4.205	.0129	97
16	11.67	12 13 11	6 13 32	260	1.95479	17	1.2732	0.9097	3	13.780	5	4.208	.0129	109
17	11.73	12 13 11	6 9 12	260	1.95496	16	1.2732	0.9100	1	13.785	5	4.211	.0129	121
18	11.80	12 13 12	6 4 52	260	1.95512	17	1.2731	0.9101	1	13.790	5	4.213	.0129	133
19	11.86	12 13 13	6 0 32	260	1.95529	16	1.2731	0.9102	1	13.795	5	4.216	.0130	145
20	11.92	12 13 14	5 56 12	260	1.95545	16	1.2730	0.9103	0	13.800	6	4.219	.0130	157
21	11.99	12 13 15	5 51 52	259	1.95561	16	1.2731	0.9103	3	13.806	5	4.222	.0130	169
22	12.05	12 13 16	5 47 33	259	1.95577	16	1.2731	0.9100	4	13.811	5	4.224	.0130	181
23	12.12	12 13 17	5 43 14	258	1.95593	17	1.2732	0.9096	6	13.816	6	4.227	.0130	193
24	12.18	12 13 18	5 38 56	258	1.95610	17	1.2733	0.9090	7	13.822	5	4.230	.0131	205
25	12.24	12 13 19	5 34 38	258	1.95627	17	1.2735	0.9083	8	13.827	5	4.233	.0131	218
26	12.31	12 13 20	5 30 20	258	1.95644	16	1.2737	0.9075	10	13.832	5	4.236	.0131	231
27	12.38	12 13 21	5 26 2	257	1.95660	17	1.2739	0.9065	11	13.837	5	4.239	.0131	244
28	12.44	12 13 23	5 21 45	257	1.95677	17	1.2741	0.9054	12	13.842	6	4.241	.0131	257
29	12.51	12 13 24	5 17 28	256	1.95694	17	1.2743	0.9042	15	13.848	5	4.244	.0132	271
30	12.58	12 13 26	5 13 12	256	1.95711	17	1.2745	0.9027	13	13.853	5	4.247	.0132	285
31	12.64	12 13 28	5 8 56	255	1.95728	17	1.2748	0.9014	16	13.858	6	4.249	.0132	299
April 1	12.71	12 13 30	5 4 41	255	1.95745	17	1.2751	0.8998	17	13.864	5	4.252	.0132	313
2	12.77	12 13 32	5 0 26	254	1.95762	17	1.2754	0.8981	19	13.869	6	4.255	.0132	328
3	12.84	12 13 34	4 56 12	255	1.95779	18	1.2757	0.8962	21	13.875	5	4.258	.0132	343
4	12.90	12 13 36	4 51 57	253	1.95797	18	1.2761	0.8941	22	13.880	5	4.260	.0132	358
5	12.97	12 13 39	4 47 44	253	1.95815	18	1.2765	0.8919	23	13.885	6	4.263	.0132	12
6	13.04	12 13 41	4 43 31	252	1.95833	18	1.2769	0.8896	25	13.891	6	4.266	.0133	27
7	13.10	12 13 44	4 39 19	252	1.95851	18	1.2773	0.8871	26	13.897	6	4.268	.0133	41
8	13.17	12 13 46	4 35 7	252	1.95869	18	1.2777	0.8845	27	13.903	6	4.271	.0133	54
9	13.24	12 13 49	4 30 55	251	1.95887	19	1.2781	0.8818	28	13.909	5	4.274	.0133	68
10	13.30	12 13 51	4 26 44	250	1.95906	19	1.2786	0.8790	30	13.914	6	4.277	.0133	81
11	13.37	12 13 54	4 22 34	249	1.95925	19	1.2791	0.8760	31	13.920	6	4.279	.0133	93
12	13.43	12 13 56	4 18 25	248	1.95944	19	1.2796	0.8729	33	13.926	6	4.282	.0134	105
13	13.50	12 13 59	4 14 17	247	1.95963	19	1.2801	0.8696	35	13.932	6	4.285	.0134	117
14	13.57	12 14 1	4 10 10	246	1.95982	20	1.2806	0.8661	36	13.938	6	4.287	.0134	129
15	13.64	12 14 4	4 6 4	246	1.96002	20	1.2811	0.8625	37	13.944	6	4.290	.0134	141
16	13.70	12 14 7	4 1 58	245	1.96022	20	1.2817	0.8588	39	13.950	6	4.293	.0134	153
17	13.77	12 14 10	3 57 53	245	1.96042	20	1.2822	0.8549	41	13.956	6	4.296	.0134	165
18	13.83	12 14 13	3 53 48	244	1.96062	20	1.2828	0.8508	43	13.962	6	4.298	.0134	177
19	13.90	12 14 16	3 49 44	244	1.96082	21	1.2833	0.8465	44	13.968	7	4.300	.0134	189
20	13.96	12 14 19	3 45 40	242	1.96103	21	1.2839	0.8421	46	13.975	6	4.303	.0134	202
21	14.03	12 14 22	3 41 38	241	1.96124	21	1.2845	0.8375	48	13.981	7	4.306	.0135	215
22	14.10	12 14 25	3 37 37	240	1.96145	21	1.2851	0.8327	50	13.988	7	4.309	.0135	227
23	14.16	12 14 28	3 33 37	239	1.96166	22	1.2857	0.8277	51	13.995	7	4.312	.0135	241
24	14.23	13 14 32	3 29 38	238	1.96188	22	1.2863	0.8226	52	14.002	7	4.315	.0135	254
25	14.29	12 14 35	3 25 40	238	1.96210	22	1.2869	0.8174	54	14.009	7	4.318	.0135	268
26	14.36	12 14 38	3 21 42	237	1.96232	22	1.2875	0.8120	57	14.016	7	4.320	.0135	282
27	14.42	12 14 41	3 17 45	237	1.96254	23	1.2881	0.8063	59	14.023	7	4.323	.0136	296
28	14.49	12 14 44	3 13 48	236	1.96277	23	1.2887	0.8004	61	14.030	7	4.325	.0136	310
29	14.56	12 14 48	3 9 52	236	1.96300	23	1.2894	0.7943	63	14.037	8	4.328	.0136	324
30	14.62	12 14 51	3 5 56	235	1.96323		1.2900	0.7880		— 14.045		— 4.331	.0136	338

EPOCH MEAN MIDNIGHT, WASHINGTON.

Date.	**Sid. T.**	**G.**	**H.**		**Log. *g*.**		**Log. *h*.**	**Log. *i*.**		***f*.**		***t*.**	***p*.**	**☽**
1864.	h.	h. m. s.	h. m. s.						66	s.		y.		°
May 1	14.69	12 14 54	3 2 1	234	1.96347	24	1.2906	0.7814	68	— 14.052	7	— 4.334	.0136	353
2	14.75	12 14 57	2 58 7	233	1.96371	24	1.2912	0.7746	70	14.059	8	4.336	.0136	7
3	14.82	12 15 0	2 54 14	232	1.96395	24	1.2918	0.7676	72	14.067	8	4.339	.0136	21
4	14.88	12 15 4	2 50 22	230	1.96419	25	1.2925	0.7604	73	14.075	8	4.342	.0137	35
5	14.95	12 15 7	2 46 32	230	1.96444	25	1.2932	0.7531	76	14.083	8	4.345	.0137	49
6	15.01	12 15 10	2 42 42	229	1.96469	25	1.2938	0.7455	79	14.091	8	4.348	.0137	62
7	15.08	12 15 14	2 38 53	229	1.96494	25	1.2945	0.7376	82	14.099	8	4.351	.0137	75
8	15.14	12 15 17	2 35 4	228	1.96519	25	1.2951	0.7294	86	14.107	8	4.353	.0137	88
9	15.21	12 15 20	2 31 16	228	1.96544	26	1.2958	0.7208	89	14.115	8	4.355	.0138	101
10	15.28	12 15 23	2 27 28	228	1.96570	26	1.2964	0.7119	91	14.123	8	4.358	.0138	113
11	15.34	12 15 27	2 23 41	226	1.96596	26	1.2970	0.7028	95	14.131	8	4.361	.0138	125
12	15.41	12 15 30	2 19 55	225	1.96622	26	1.2976	0.6933	98	14.139	8	4.364	.0138	137
13	15.47	12 15 33	2 16 10	224	1.96648	27	1.2982	0.6835	100	14.147	9	4.367	.0139	149
14	15.54	12 15 36	2 12 26	222	1.96675	27	1.2988	0.6735	104	14.156	8	4.370	.0139	161
15	15.61	12 15 39	2 8 44	222	1.96702	27	1.2994	0.6631	109	14.164	8	4.373	.0139	173
16	15.67	12 15 42	2 5 2	222	1.96729	27	1.2999	0.6522	113	14.172	9	4.375	.0139	185
17	15.74	12 15 44	2 1 20	222	1.96756	27	1.3005	0.6409	117	14.181	9	4.378	.0139	197
18	15.80	12 15 47	1 57 38	221	1.96783	28	1.3011	0.6292	119	14.190	9	4.381	.0140	210
19	15.87	12 15 50	1 53 57	221	1.96811	28	1.3016	0.6173	125	14.199	9	4.383	.0140	223
20	15.94	12 15 53	1 50 16	220	1.96839	28	1.3020	0.6048	130	14.208	9	4.386	.0140	236
21	16.01	12 15 55	1 46 36	219	1.96867	28	1.3025	0.5918	135	14.217	9	4.389	.0140	250
22	16.07	12 15 58	1 42 57	218	1.96895	29	1.3030	0.5783	141	14.226	9	4.391	.0140	264
23	16.14	12 16 0	1 39 19	218	1.96924	29	1.3035	0.5642	147	14.235	9	4.394	.0141	278
24	16.20	12 16 3	1 35 41	217	1.96953	29	1.3039	0.5495	156	14.244	10	4.397	.0141	292
25	16.27	12 16 6	1 32 4	217	1.96982	29	1.3044	0.5339	160	14.254	9	4.400	.0141	307
26	16.33	12 16 8	1 28 27	216	1.97011	29	1.3049	0.5179	168	14.263	10	4.403	.0141	321
27	16.40	12 16 11	1 24 51	216	1.97040	29	1.3053	0.5011	177	14.273	10	4.405	.0141	335
28	16.46	12 16 13	1 21 15	216	1.97069	30	1.3058	0.4834	183	14.283	9	4.408	.0142	349
29	16.53	12 16 15	1 17 39	215	1.97099	30	1.3062	0.4651	194	14.292	9	4.411	.0142	4
30	16.60	12 16 17	1 14 4	215	1.97129	30	1.3065	0.4457	207	14.301	10	4.414	.0142	17
31	16.66	12 16 19	1 10 29	215	1.97159	30	1.3069	0.4250	215	14.311	9	4.416	.0142	31
June 1	16.73	12 16 21	1 6 54	214	1.97189	30	1.3072	0.4035	229	14.320	10	4.419	.0142	44
2	16.80	12 16 23	1 3 20	214	1.97219	30	1.3075	0.3806	242	14.330	10	4.422	.0143	58
3	16.86	12 16 24	0 59 46	214	1.97249	30	1.3078	0.3564	255	14.340	10	4.425	.0143	71
4	16.92	12 16 26	0 56 12	213	1.97279	30	1.3082	0.3309	277	14.350	10	4.427	.0143	84
5	16.99	12 16 27	0 52 49	212	1.97309	30	1.3085	0.3032	295	14.360	10	4.429	.0143	96
6	17.05	12 16 29	0 49 17	212	1.97339	30	1.3088	0.2737	319	14.370	10	4.432	.0143	109
7	17.12	12 16 30	0 45 45	212	1.97369	30	1.3090	0.2418	342	14.380	10	4.435	.0144	121
8	17.18	12 16 31	0 42 13	211	1.97399	30	1.3092	0.2076	373	14.390	10	4.438	.0144	133
9	17.25	12 16 33	0 38 32	212	1.97429	31	1.3094	0.1703	413	14.400	10	4.441	.0144	145
10	17.31	12 16 34	0 35 0	211	1.97460	30	1.3096	0.1290	455	14.410	10	4.444	.0144	157
11	17.38	12 16 35	0 31 29	211	1.97490	31	1.3098	0.0835	509	14.420	10	4.447	.0144	169
12	17.44	12 16 36	0 27 58	211	1.97521	30	1.3100	0.0326	581	14.430	10	4.450	.0145	181
13	17.51	12 16 37	0 24 27	211	1.97551	31	1.3101	9.9745	664	14.440	10	4.453	.0145	193
14	17.58	12 16 38	0 20 56	211	1.97582	30	1.3102	9.9081	794	14.450	10	4.456	.0145	205
15	17.64	12 16 38	0 17 25	210	1.97612	31	1.3103	9.8287	971	14.460	11	4.458	.0145	218
16	17.71	12 16 39	0 13 55	210	1.97643	30	1.3104	9.7316	1252	14.471	10	4.461	.0145	231
17	17.77	12 16 39	0 10 25	209	1.97673	31	1.3105	9.6064	1766	14.481	10	4.464	.0146	245
18	17.84	12 16 39	0 6 56	208	1.97704	31	1.3106	9.4298	3059	14.491	10	4.466	.0146	259
19	17.91	12 16 40	0 3 28	209	1.97735	30	1.3106	9.1239		14.501	11	4.469	.0146	273
20	17.97	12 16 40	23 59 59	210	1.97765	31	1.3106	n 7.3010		14.512	10	4.471	.0146	287
21	18.04	12 16 40	23 56 29	211	1.97796	30	1.3106	9.1367	2995	14.522	10	4.474	.0146	302
22	18.10	12 16 41	23 52 58	211	1.97826	31	1.3106	9.4362	1755	14.532	10	4.477	.0147	317
23	18.17	12 16 41	23 49 27	211	1.97857	30	1.3105	9.6117	1239	14.542	10	4.479	.0147	331
24	18.24	12 16 41	23 45 56	210	1.97887	30	1.3105	9.7356	963	14.552	10	4.481	.0147	346
25	18.30	12 16 40	23 42 26	211	1.97917	30	1.3104	9.8319	782	14.562	10	4.484	.0147	0
26	18.37	12 16 40	23 38 55	210	1.97947	30	1.3103	9.9101	662	14.572	10	4.487	.0147	14
27	18.44	12 16 40	23 35 25	211	1.97977	30	1.3102	9.9763	579	14.582	10	4.490	.0148	28
28	18.50	12 16 39	23 31 54	210	1.98007	30	1.3100	0.0342	508	14.592	10	4.493	.0148	41
29	18.57	12 16 39	23 28 24	210	1.98037	30	1.3098	0.0850	450	14.602	10	4.495	.0148	54
30	18.63	12 16 38	23 24 54		1.98067		1.3096	n 0.1300		14.612		— 4.498	.0148	67

EPOCH MEAN MIDNIGHT, WASHINGTON.

DATE.	SID. T.	G.	H.		LOG. *g*.		LOG. *h*.	LOG. *i*.		*f*.		*t*.	*p*.	)
1864.	h.	h. m. s.	h. m. s.						408	s.		y.		
July 1	18.70	12 16 38	23 21 23	211	1.98097	30	1.3094	n 0.1708	374	− 14.622	10	− 4.501	.0148	80
2	18.76	12 16 37	23 17 52	212	1.98127	29	1.3092	0.2082	343	14.632	10	4.503	.0148	93
3	18.83	12 16 36	23 14 20	212	1.98156	29	1.3090	0.2425	318	14.642	10	4.506	.0148	105
4	18.89	12 16 35	23 10 48	211	1.98185	29	1.3087	0.2743	291	14.652	10	4.509	.0149	117
5	18.96	12 16 34	23 7 17	212	1.98214	29	1.3084	0.3034	270	14.662	10	4.512	.0149	129
6	19.02	12 16 33	23 3 45	212	1.98243	29	1.3081	0.3304	258	14.672	10	4.515	.0149	141
7	19.09	12 16 32	23 0 13	212	1.98272	28	1.3078	0.3562	244	14.682	10	4.518	.0149	153
8	19.15	12 16 31	22 56 41	213	1.98300	28	1.3075	0.3806	230	14.692	9	4.520	.0149	165
9	19.22	12 16 30	22 53 8	213	1.98328	28	1.3072	0.4036	214	14.701	10	4.523	.0150	177
10	19.29	12 16 28	22 49 35	214	1.98356	28	1.3069	0.4250	203	14.711	10	4.526	.0150	189
11	19.35	12 16 27	22 46 1	214	1.98384	28	1.3065	0.4453	193	14.721	9	4.528	.0150	201
12	19.42	12 16 25	22 42 27	215	1.98412	28	1.3061	0.4646	184	14.730	9	4.531	.0150	213
13	19.49	12 16 24	22 38 52	216	1.98440	27	1.3057	0.4830	177	14.739	9	4.534	.0150	226
14	19.55	12 16 22	22 35 16	215	1.98467	27	1.3053	0.5007	166	14.748	10	4.537	.0151	239
15	19.62	12 16 20	22 31 41	216	1.98494	27	1.3049	0.5173	159	14.758	9	4.540	.0151	253
16	19.69	12 16 19	22 28 5	216	1.98521	27	1.3045	0.5332	152	14.767	9	4.542	.0151	267
17	19.75	12 16 17	22 24 29	216	1.98548	26	1.3040	0.5484	147	14.776	9	4.545	.0151	281
18	19.82	12 16 16	22 20 53	217	1.98574	26	1.3035	0.5631	143	14.785	9	4.548	.0151	296
19	19.88	12 16 14	22 17 16	218	1.98600	26	1.3030	0.5774	135	14.794	9	4.551	.0152	311
20	19.95	12 16 12	22 13 38	218	1.98626	26	1.3025	0.5909	130	14.803	9	4.553	.0152	326
21	20.01	12 16 10	22 10 0	219	1.98652	26	1.3020	0.6039	125	14.812	9	4.556	.0152	341
22	20.08	12 16 8	22 6 21	220	1.98678	25	1.3015	0.6164	120	14.821	9	4.558	.0152	356
23	20.15	12 16 6	22 2 41	221	1.98703	25	1.3010	0.6284	117	14.830	9	4.561	.0152	10
24	20.21	12 16 4	21 59 0	221	1.98728	25	1.3004	0.6401	110	14.839	9	4.564	.0152	24
25	20.28	12 16 2	21 55 19	222	1.98753	25	1.2999	0.6511	108	14.848	9	4.567	.0153	38
26	20.34	12 16 0	21 51 37	222	1.98778	24	1.2993	0.6619	104	14.857	8	4.569	.0153	51
27	20.41	12 15 58	21 47 55	223	1.98802	24	1.2988	0.6723	102	14.865	8	4.571	.0153	64
28	20.48	12 15 56	21 44 12	224	1.98826	24	1.2982	0.6825	98	14.873	8	4.574	.0153	77
29	20.54	12 15 54	21 40 28	224	1.98850	24	1.2976	0.6923	94	14.881	9	4.577	.0153	90
30	20.61	12 15 52	21 36 44	224	1.98874	23	1.2970	0.7017	91	14.890	8	4.580	.0154	102
31	20.67	12 15 49	21 33 0	225	1.98897	23	1.2964	0.7108	88	14.898	8	4.583	.0154	114
August 1	20.74	12 15 47	21 29 15	225	1.98920	23	1.2958	0.7196	85	14.906	8	4.586	.0154	126
2	20.80	12 15 45	21 25 30	226	1.98943	23	1.2952	0.7281	81	14.914	8	4.589	.0154	138
3	20.87	12 15 43	21 21 44	227	1.98966	22	1.2946	0.7362	78	14.922	8	4.592	.0154	150
4	20.93	12 15 41	21 17 57	228	1.98988	22	1.2940	0.7440	74	14.930	8	4.594	.0155	161
5	21.00	12 15 38	21 14 9	229	1.99010	22	1.2933	0.7514	74	14.938	7	4.597	.0155	174
6	21.06	12 15 36	21 10 20	229	1.99032	22	1.2927	0.7588	73	14.945	8	4.599	.0155	186
7	21.13	12 15 34	21 6 31	231	1.99054	21	1.2921	0.7661	71	14.953	7	4.602	.0155	198
8	21.19	12 15 32	21 2 40	231	1.99075	21	1.2915	0.7732	68	14.960	8	4.605	.0156	210
9	21.26	12 15 30	20 58 49	232	1.99096	20	1.2909	0.7800	64	14.968	7	4.608	.0156	222
10	21.33	12 15 27	20 54 57	233	1.99116	20	1.2902	0.7864	63	14.975	8	4.610	.0156	234
11	21.39	12 15 25	20 51 4	233	1.99136	20	1.2896	0.7927	61	14.983	7	4.613	.0156	247
12	21.46	12 15 23	20 47 11	235	1.99156	20	1.2889	0.7988	60	14.990	7	4.616	.0156	261
13	21.52	12 15 21	20 43 16	235	1.99176	20	1.2883	0.8048	57	14.997	7	4.619	.0156	275
14	21.59	12 15 19	20 39 21	236	1.99196	20	1.2877	0.8105	55	15.004	7	4.621	.0156	290
15	21.66	12 15 17	20 35 25	236	1.99216	19	1.2871	0.8160	52	15.011	7	4.624	.0156	304
16	21.72	12 15 15	20 31 29	236	1.99235	19	1.2865	0.8212	50	15.018	6	4.627	.0156	319
17	21.79	12 15 13	20 27 33	237	1.99254	19	1.2859	0.8262	51	15.024	6	4.630	.0157	335
18	21.85	12 15 11	20 23 36	237	1.99273	18	1.2853	0.8313	48	15.030	7	4.633	.0157	350
19	21.92	12 15 9	20 19 39	239	1.99291	18	1.2847	0.8361	45	15.037	6	4.635	.0157	5
20	21.98	12 15 7	20 15 40	241	1.99309	18	1.2841	0.8406	43	15.043	6	4.638	.0157	20
21	22.05	12 15 6	20 11 39	241	1.99327	18	1.2835	0.8449	43	15.049	7	4.641	.0157	34
22	22.12	12 15 4	20 7 38	242	1.99345	18	1.2829	0.8492	42	15.056	6	4.643	.0157	48
23	22.18	12 15 2	20 3 36	243	1.99363	17	1.2824	0.8534	39	15.062	6	4.645	.0158	61
24	22.25	12 15 0	19 59 33	244	1.99380	17	1.2818	0.8573	38	15.068	6	4.648	.0158	74
25	22.31	12 14 59	19 55 29	244	1.99397	17	1.2812	0.8611	36	15.074	6	4.650	.0158	87
26	22.38	12 14 57	19 51 25	244	1.99414	17	1.2807	0.8647	34	15.080	6	4.653	.0158	99
27	22.44	12 14 55	19 47 21	245	1.99431	17	1.2802	0.8681	34	15.086	6	4.656	.0158	111
28	22.51	12 14 54	19 43 16	245	1.99448	17	1.2797	0.8715	32	15.092	6	4.659	.0158	123
29	22.58	12 14 52	19 39 11	246	1.99465	16	1.2792	0.8747	30	15.098	6	4.662	.0159	135
30	22.64	12 14 51	19 35 5	247	1.99481	16	1.2787	0.8777	29	15.104	6	4.665	.0159	147
31	22.71	12 14 50	19 30 58		1.99497	16	1.2782	n 0.8806		− 15.110		− 4.668	.0159	159

EPOCH MEAN MIDNIGHT, WASHINGTON.

DATE.	SID. T.	G.	H.		LOG. *g*.	LOG. *h*.	LOG. *i*.		*f*.		*t*.	*p*.	☽
1864.	h.	h. m. s.	h. m. s.	248				28	s.		y.		°
Sept. 1	22.77	12 14 49	19 26 50	250	1.99513	1.2778	n 0.8834	26	— 15.116	5	— 4.671	.0159	171
2	22.84	12 14 48	19 22 40	250	1.99529	1.2774	0.8860	25	15.121	6	4.674	.0159	183
3	22.90	12 14 47	19 18 30	251	1.99545	1.2770	0.8885	23	15.127	6	4.676	.0159	195
4	22.97	12 14 46	19 14 19	250	1.99561	1.2766	0.8908	22	15.133	5	4.679	.0160	207
5	23.04	12 14 45	19 10 9	250	1.99576	1.2762	0.8930	21	15.138	5	4.682	.0160	219
6	23.10	12 14 44	19 5 59	251	1.99591	1.2759	0.8951	19	15.143	5	4.684	.0160	231
7	23.17	12 14 43	19 1 48	252	1.99606	1.2756	0.8970	18	15.148	6	4.687	.0160	244
8	23.24	12 14 43	18 57 36	252	1.99621	1.2753	0.8988	17	15.154	5	4.690	.0161	257
9	23.30	12 14 42	18 53 24	253	1.99636	1.2750	0.9005	16	15.159	5	4.692	.0161	270
10	23.36	12 14 42	18 49 11	253	1.99651	1.2747	0.9021	14	15.164	5	4.695	.0161	284
11	23.42	12 14 42	18 44 58	254	1.99666	1.2744	0.9035	12	15.169	5	4.698	.0161	298
12	23.48	12 14 41	18 40 44	254	1.99680	1.2742	0.9047	12	15.174	5	4.701	.0161	313
13	23.55	12 14 41	18 36 30	254	1.99695	1.2740	0.9059	11	15.179	5	4.704	.0162	328
14	23.62	12 14 41	18 32 16	254	1.99709	1.2738	0.9070	9	15.184	6	4.706	.0162	343
15	23.69	12 14 40	18 28 2	255	1.99724	1.2736	0.9079	7	15.190	5	4.709	.0162	358
16	23.75	12 14 40	18 23 47	255	1.99738	1.2735	0.9086	6	15.195	5	4.712	.0162	13
17	23.82	12 14 40	18 19 32	255	1.99752	1.2734	0.9092	5	15.200	5	4.715	.0162	28
18	23.89	12 14 40	18 15 17	255	1.99766	1.2733	0.9097	4	15.205	5	4.717	.0163	42
19	23.96	12 14 41	18 11 2	256	1.99781	1.2732	0.9101	3	15.210	5	4.720	.0163	57
20	0.02	12 14 41	18 6 46	257	1.99796	1.2731	0.9104	2	15.215	5	4.722	.0163	70
21	0.09	12 14 42	18 2 19	257	1.99811	1.2731	0.9106	0	15.220	5	4.725	.0163	84
22	0.15	12 14 42	17 58 12	256	1.99826	1.2731	0.9106	2	15.225	5	4.728	.0163	96
23	0.22	12 14 43	17 53 56	257	1.99840	1.2731	0.9104	3	15.230	5	4.731	.0164	108
24	0.29	12 14 43	17 49 39	257	1.99855	1.2732	0.9101	4	15.235	5	4.733	.0164	120
25	0.35	12 14 44	17 45 22	257	1.99869	1.2733	0.9097	4	15.240	5	4.736	.0164	132
26	0.42	12 14 45	17 41 5	257	1.99884	1.2734	0.9093	6	15.245	5	4.739	.0164	144
27	0.49	12 14 46	17 36 48	256	1.99899	1.2735	0.9087	7	15.250	5	4.742	.0164	156
28	0.56	12 14 47	17 32 32	257	1.99913	1.2736	0.9080	9	15.255	5	4.744	.0165	168
29	0.62	12 14 48	17 28 15	257	1.99928	1.2738	0.9071	10	15.260	5	4.747	.0165	180
30	0.68	12 14 49	17 23 58	557	1.99942	1.2740	0.9061	12	15.265	5	4.750	.0165	192
Oct. 1	0.75	12 14 51	17 19 41	257	1.99957	1.2742	0.9049	13	15.270	5	4.753	.0165	204
2	0.81	12 14 52	17 15 24	257	1.99972	1.2744	0.9036	14	15.275	5	4.756	.0165	216
3	0.88	12 14 53	17 11 7	256	1.99987	1.2747	0.9022	15	15.280	5	4.758	.0166	228
4	0.94	12 14 54	17 6 51	256	2.00002	1.2750	0.9007	17	15.285	6	4.761	.0166	241
5	1.01	12 14 56	17 2 35	256	2.00017	1.2753	0.8990	19	15.291	6	4.764	.0166	253
6	1.07	12 14 58	16 58 19	255	2.00032	1.2756	0.8971	20	15.297	5	4.767	.0166	266
7	1.14	12 15 0	16 54 4	255	2.00048	1.2759	0.8951	21	15.302	6	4.770	.0166	280
8	1.20	12 15 2	16 49 49	255	2.00064	1.2763	0.8930	22	15.308	5	4.772	.0167	294
9	1.27	12 15 4	16 45 34	254	2.00080	1.2767	0.8908	23	15.313	6	4.775	.0167	308
10	1.34	12 15 6	16 41 20	254	2.00096	1.2771	0.8885	26	15.319	6	4.778	.0167	322
11	1.40	12 15 8	16 37 6	254	2.00112	1.2775	0.8859	27	15.325	5	4.780	.0167	337
12	1.47	12 15 10	16 32 52	253	2.00129	1.2779	0.8832	28	15.330	6	4.783	.0167	352
13	1.53	12 15 12	16 28 39	253	2.00145	1.2783	0.8804	30	15.336	5	4.785	.0168	7
14	1.60	12 15 15	16 24 26	253	2.00162	1.2788	0.8774	31	15.341	6	4.788	.0168	22
15	1.67	12 15 17	16 20 13	253	2.00179	1.2793	0.8743	33	15.347	5	4.791	.0168	37
16	1.73	12 15 19	16 16 0	252	2.00196	1.2798	0.8710	35	15.352	6	4.794	.0168	51
17	1.80	12 15 22	16 11 48	251	2.00214	1.2803	0.8675	36	15.358	6	4.797	.0168	65
18	1.86	12 15 25	16 7 37	250	2.00232	1.2808	0.8639	38	15.364	6	4.800	.0168	79
19	1.93	12 15 27	16 3 27	250	2.00250	1.2814	0.8601	39	15.370	6	4.802	.0168	92
20	1.99	12 15 29	15 59 17	249	2.00268	1.2820	0.8562	41	15.376	7	4.805	.0169	104
21	2.06	12 15 32	15 55 8	248	2.00286	1.2826	0.8521	43	15.383	6	4.808	.0169	113
22	2.12	12 15 34	15 51 0	249	2.00304	1.2832	0.8478	45	15.389	7	4.811	.0169	129
23	2.19	12 15 37	15 46 51	248	2.00323	1.2838	0.8433	47	15.396	6	4.813	.0169	141
24	2.25	12 15 39	15 42 43	248	2.00342	1.2844	0.8386	49	15.402	7	4.816	.0169	152
25	2.32	12 15 42	15 38 35	248	2.00361	1.2850	0.8337	50	15.409	6	4.819	.0169	164
26	2.38	12 15 45	15 34 27	247	2.00380	1.2856	0.8287	51	15.415	7	4.821	.0169	176
27	2.45	12 15 48	15 30 20	246	2.00399	1.2862	0.8236	54	15.422	7	4.824	.0170	188
28	2.51	12 15 50	15 26 14	245	2.00419	1.2868	0.8182	56	15.429	7	4.827	.0170	200
29	2.58	12 15 53	15 22 9	245	2.00439	1.2874	0.8126	58	15.436	7	4.829	.0170	212
30	2.65	12 15 56	15 18 4	245	2.00459	1.2880	0.8068	61	15.443	7	4.832	.0170	225
31	2.71	12 15 59	15 13 59		2.00480	1.2887	n 0.8007		— 15.450		— 4.835		238

EPOCH MEAN MIDNIGHT, WASHINGTON.

DATE.	SID. T.	G.	H.		LOG. *g*.	LOG. *h*.	LOG. *i*.		*f*.		*t*.	*p*.	☽
1864.	h.	h. m. s.	h. m. s.					63	s.		y.		
Nov. 1	2.78	12 16 2	15 9 56	242	2.00501	1.2894	n 0.7944	65	— 15.458	7	— 4.838	.0170	251
2	2.84	12 16 5	15 5 54	242	2.00523	1.2900	0.7879	68	15.465	7	4.841	.0170	264
3	2.91	12 16 8	15 1 52	241	2.00545	1.2907	0.7811	70	15.472	8	4.844	.0171	277
4	2.98	12 16 11	14 57 51	242	2.00567	1.2914	0.7741	72	15.480	8	4.846	.0171	291
5	3.05	12 16 14	14 53 49	242	2.00589	1.2920	0.7669	75	15.488	8	4.849	.0171	304
6	3.11	12 16 17	14 49 48	240	2.00611	1.2927	0.7594	77	15.496	7	4.852	.0171	318
7	3.18	12 16 19	14 45 48	239	2.00634	1.2933	0.7517	80	15.503	8	4.854	.0171	333
8	3.24	12 16 22	14 41 49	239	2.00657	1.2940	0.7437	84	15.511	8	4.857	.0171	347
9	3.31	12 16 25	14 37 50	239	2.00680	1.2947	0.7353	87	15.519	8	4.859	.0172	1
10	3.37	12 16 28	14 33 51	239	2.00703	1.2953	0.7266	90	15.527	8	4.862	.0172	16
11	3.44	12 16 31	14 29 52	238	2.00727	1.2960	0.7176	93	15.535	8	4.865	.0172	30
12	3.51	12 16 33	14 25 54	237	2.00751	1.2966	0.7083	97	15.543	8	4.867	.0172	45
13	3.57	12 16 36	14 21 57	236	2.00775	1.2972	0.6986	100	15.551	9	4.870	.0173	59
14	3.63	12 16 39	14 18 1	235	2.00799	1.2978	0.6886	104	15.560	9	4.873	.0173	73
15	3.70	12 16 42	14 14 6	234	2.00823	1.2984	0.6782	108	15.569	9	4.876	.0173	86
16	3.76	12 16 45	14 10 12	234	2.00848	1.2990	0.6674	113	15.578	8	4.879	.0173	99
17	3.83	12 16 47	14 6 18	233	2.00873	1.2996	0.6561	117	15.586	9	4.881	.0173	112
18	3.90	12 16 50	14 2 25	232	2.00898	1.3002	0.6444	121	15.595	9	4.884	.0173	125
19	3.96	12 16 52	13 58 33	233	2.00923	1.3008	0.6323	126	15.604	9	4.887	.0174	137
20	4.03	12 16 55	13 54 40	232	2.00948	1.3014	0.6197	129	15.613	9	4.890	.0174	149
21	4.10	12 16 57	13 50 48	231	2.00974	1.3019	0.6068	134	15.622	9	4.893	.0174	161
22	4.16	12 17 0	13 46 57	231	2.01000	1.3025	0.5934	142	15.631	9	4.895	.0174	173
23	4.23	12 17 2	13 43 6	230	2.01026	1.3030	0.5792	148	15.640	9	4.898	.0175	185
24	4.30	12 17 4	13 39 16	230	2.01053	1.3035	0.5644	157	15.649	10	4.900	.0175	196
25	4.36	12 17 6	13 35 26	230	2.01080	1.3040	0.5487	167	15.659	10	4.903	.0175	208
26	4.43	12 17 8	13 31 36	229	2.01107	1.3045	0.5320	171	15.669	9	4.906	.0175	221
27	4.49	12 17 10	13 27 37	229	2.01134	1.3050	0.5149	178	15.678	10	4.909	.0175	234
28	4.55	12 17 12	13 23 58	229	2.01161	1.3055	0.4971	188	15.688	10	4.911	.0176	247
29	4.62	12 17 14	13 20 9	229	2.01189	1.3059	0.4783	198	15.698	10	4.914	.0176	260
30	4.69	12 17 16	13 16 20	228	2.01216	1.3063	0.4585	211	15.708	10	4.917	.0176	273
Dec. 1	4.75	12 17 18	13 12 32	228	2.01244	1.3067	0.4374	223	15.718	10	4.920	.0176	287
2	4.82	12 17 20	13 8 44	227	2.01272	1.3071	0.4151	236	15.728	10	4.923	.0176	301
3	4.89	12 17 21	13 4 57	226	2.01300	1.3075	0.3915	251	15.738	10	4.925	.0177	315
4	4.95	12 17 23	13 1 11	226	2.01328	1.3078	0.3664	266	15.748	10	4.927	.0177	329
5	5.02	12 17 24	12 57 25	225	2.01356	1.3081	0.3398	285	15.758	10	4.930	.0177	343
6	5.08	12 17 25	12 53 40	226	2.01384	1.3084	0.3113	307	15.768	10	4.933	.0177	358
7	5.15	12 17 27	12 49 54	226	2.01412	1.3087	0.2806	334	15.778	10	4.936	.0177	12
8	5.21	12 17 28	12 46 8	226	2.01440	1.3090	0.2472	364	15.788	11	4.939	.0178	26
9	5.28	12 17 29	12 42 22	225	2.01469	1.3092	0.2108	394	15.799	10	4.942	.0178	40
10	5.35	12 17 30	12 38 37	225	2.01498	1.3094	0.1714	437	15.809	10	4.945	.0178	54
11	5.41	12 17 31	12 34 52	224	2.01527	1.3096	0.1277	485	15.819	10	4.948	.0178	68
12	5.48	12 17 31	12 31 8	224	2.01555	1.3098	0.0792	551	15.829	11	4.950	.0178	81
13	5.55	12 17 32	12 27 24	224	2.01584	1.3100	0.0241	636	15.840	10	4.953	.0179	94
14	5.61	12 17 33	12 23 40	224	2.01613	1.3102	9.9605	746	15.850	11	4.955	.0179	107
15	5.67	12 17 33	12 19 56	224	2.01642	1.3103	9.8859	900	15.861	10	4.958	.0179	120
16	5.74	12 17 34	12 16 12	225	2.01671	1.3104	9.7959	1147	15.871	11	4.961	.0179	132
17	5.80	12 17 34	12 12 27	224	2.01699	1.3105	9.6812	1562	15.882	10	4.964	.0179	145
18	5.87	12 17 34	12 8 43	225	2.01728	1.3105	9.5250	2485	15.892	11	4.967	.0179	157
19	5.94	12 17 35	12 4 58	225	2.01758	1.3106	9.2765		15.903	10	4.970	.0180	169
20	6.00	12 17 35	12 1 13	225	2.01785	1.3106	n 8.6335		15.913	11	4.973	.0180	181
21	6.07	12 17 35	11 57 28	224	2.01814	1.3106	8.9912		15.924	10	4.975	.0180	192
22	6.14	12 17 34	11 53 44	225	2.01843	1.3105	9.3856	2032	15.934	11	4.978	.0180	204
23	6.20	12 17 34	11 49 59	225	2.01871	1.3105	9.5888	1371	15.945	10	4.981	.0181	216
24	6.27	12 17 34	11 46 14	225	2.01900	1.3104	9.7259	1040	15.955	11	4.983	.0181	229
25	6.33	12 17 33	11 42 29	225	2.01929	1.3103	9.8299	839	15.966	11	4.986	.0181	242
26	6.40	12 17 33	11 38 44	224	2.01958	1.3102	9.9138	703	15.977	10	4.989	.0181	255
27	6.46	12 17 32	11 35 0	225	2.01987	1.3101	9.9841	604	15.987	11	4.991	.0181	269
28	6.53	12 17 32	11 31 15	225	2.02015	1.3099	0.0445	528	15.998	11	4.994	.0182	283
29	6.59	12 17 31	11 27 30	225	2.02043	1.3097	0.0973	470	16.009	10	4.997	.0182	297
30	6.66	12 17 31	11 23 45	225	2.02071	1.3095	0.1443	423	16.019	10	4.999	.0182	311
31	6.72	12 17 30	11 20 0		2.02099	1.3093	0.1866		— 16.029		— 5.002	.0182	326

CATALOGUE

OF

STARS OBSERVED

IN THE

YEAR 1864.

U. S. NAVAL OBSERVATORY.

CATALOGUE OF STARS OBSERVED IN THE YEAR 1864.

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1	Anonymous		0 0 2.43	1	+ 3.071	− 23 52		+ 20.06	
2	α Andromedæ		0 1 9.45	25	3.075	+ 28 19 2.8	4	20.06	
3	Weisse 1267	7.7	0 1 41.78	1	3.072	− 0 5 12.6	3	20.06	
4	β Cassiopeæ		0 1 42		3.087	+ 58 22 37.9	1	20.06	
5	B. A. C. 12		0 2 44.92	1	3.071	− 3 20		20.05	
6	Anonymous	8.5	0 4 13.02	2	3.056	33 33		20.05	
7	Weisse 71	9.0	0 4 49.10	1	3.072	− 1 0		20.05	
8	γ Pegasi		0 6 1.78	6	3.081	+ 14 24 19.1	4	20.05	
9	O. Arg. S. 65	7.0	0 6 37.55	3	3.055	− 23 58		20.05	
10	Lacaille 17		0 7 48.64	1	3.042	32 56		20.04	
11	Lacaille 26	7.5	0 9 28.58	4	3.035	33 32		20.04	
12	Anonymous		0 9 37		3.072	0 0 21.4	2	20.04	
13	B. A. C. 49	7.0	0 9 38.93	4	3.034	33 28		20.04	
14	Anonymous	7.6	0 10 50		3.072	0 9 41.4	3	20.03	
15	B. A. C. 59	5.7	0 11 16.91	1	3.022	37 16		20.03	
16	ι Ceti		0 12 18		3.060	9 36 0.3	2	20.03	
17	Lacaille 46	7.0	0 13 9.37	1	3.015	26 40		20.02	
18	Anonymous	7.9	0 13 14.38	2	3.021	− 33 31		20.02	
19	d Piscium		0 13 23.82	3	3.082	+ 7 25		20.02	
20	Lacaille 48	7.2	0 13 45		3.036	− 24 24 26.1	2	20.02	
21	Lacaille 52	6.3	0 14 14.98	2	3.011	36 34		20.02	
22	O. Arg. S. 138	8.0	0 14 47.32	1	3.034	− 23 46		20.02	
23	Weisse 247		0 14 48		3.081	+ 6 14 7.2	1	20.02	
24	Lacaille 60		0 15 45.84	1	3.005	− 36 9		20.01	
25	Lacaille 62	6.5	0 15 53.80	1	2.999	38 11		20.01	
26	Lacaille 72	7.0	0 17 6.29	1	2.993	− 38 11		20.00	
27	44 Piscium		0 18 13.60	3	3.074	+ 1 10		19.99	
28	Lacaille 81	6.0	0 18 26.26	1	2.982	− 40 2		19.99	
29	Weisse 302		0 18 30		3.085	+ 6 55 2.2	1	19.99	
30	Lacaille 92		0 20 31.23	1	2.995	− 32 38		19.98	
31	Lacaille 98		0 21 27.27	1	3.000	30 4		19.97	
32	Lacaille 100	7.0	0 21 49.88	1	3.011	25 28		19.97	
33	12 Ceti		0 22 53.65	5	3.056	− 4 44		19.96	
34	Santini 30	7.0	0 26 42.78	2	3.079	+ 2 32		19.92	
35	Lacaille 126	8.5	0 26 44		2.944	− 39 27 25.2	1	19.92	
36	B. A. C. 135	5.9	0 26 45.20	2	2.981	30 20		19.92	
37	B. A. C. 136, (1st *)	6.5	0 26 51.56	1	2.959	35 45		19.92	
38	B. A. C. 136, (2d *)	8.0	0 26 51.69	1	2.959	− 35 45		19.92	
39	Weisse 477	7.5	0 28 16.55	1	3.082	+ 3 30		19.90	
40	Anonymous	8.3	0 28 25.85	2	3.079	+ 2 32		19.90	
41	O. Arg. S. 284	8.5	0 28 41.12	3	2.985	− 27 38		19.90	
42	Lacaille 142	6.5	0 29 8.68	1	2.998	23 36		19.90	
43	Anonymous		0 29 25		2.933	− 39 3 50.8	2	19.89	
44	B. A. C. 161	7.0	0 30 18.09	1	3.079	+ 2 22		19.88	
45	O. Arg. S. 312	8.0	0 31 7.59	1	2.966	− 30 15		19.87	
46	Anonymous	8.5	0 31 27		2.954	32 48 14.7	2	19.87	
47	Lacaille 157	6.2	0 31 51.65	1	2.982	− 25 52		19.87	
48	B. A. C. 167	8.5	0 31 54.50	1	3.080	+ 2 22		19.86	
49	55 Piscium	6.0	0 32 33		3.144	20 40 11.9	2	19.86	
50	α Cassiopeæ		0 32 35		3.349	+ 55 46 8.6	4	19.85	
51	Anonymous	9.5	0 32 57.98	1	3.009	− 18 22		19.85	
52	Weisse 556	9.0	0 33 5.98	1	3.087	+ 4 30		19.85	
53	Anonymous	9.0	0 33 10.83	1	3.008	− 18 18		19.85	
54	Lacaille 169	6.0	0 33 40.20	2	2.958	− 30 13		19.84	
55	Weisse 583	7.7	0 34 9		3.082	+ 2 49 49.9	2	19.83	
56	O. Arg. S. 369	7.6	0 35 42.21	3	2.993	− 20 57 42.1	1	19.81	
57	λ^1 Sculptoris		0 35 58		2.901	− 39 13 53.0	2	19.81	
58	Weisse 616	8.0	0 36 2.62	1	3.093	+ 5 47		19.81	
59	Weisse 620	8.3	0 36 17.65	1	3.092	+ 5 22		19.81	
60	β Ceti		0 36 33.61	7	+ 3.000	− 18 44		+ 19.80	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
61	λ² Sculptoris		0 37 24		+ 2.895	— 39 11 36.5	2	+ 19.79	
62	B. A. C. 203		0 37 48.47	1	2.980	— 22 46		19.78	
63	Weisse 665	8.7	0 38 50.01	1	3.090	+ 4 32		19.78	
64	Lacaille 210		0 39 48.03	1	2.934	— 30 56		19.76	
65	60 Piscium	6.0	0 40 9.39	2	3.096	+ 5 58		19.75	
66	Lacaille 216	7.0	0 40 49.70	1	2.889	— 37 42		19.74	
67	Lalande 1299	7.0	0 41 2.74	1	3.091	+ 4 35		19.74	
68	Lacaille 219		0 41 6.44	1	2.934	— 30 8		19.73	
69	δ Piscium		0 41 25.23	3	3.101	+ 6 49 21.5	4	19.73	
70	O. Arg. S. 433		0 41 49		2.936	— 29 15 30.5	1	19.72	
71	O. Arg. S. 442	7.3	0 42 27.60	2	2.963	23 58 51.4	1	19.72	
72	Lacaille 224	6.0	0 42 39.68	3	2.961	24 8		19.71	
73	O. Arg. S. 452	7.0	0 43 7.04	1	2.956	— 24 55		19.70	
74	Weisse 742	8.5	0 43 14.26	2	3.046	+ 6 21		19.70	
75	Weisse 770	9.0	0 44 25		3.087	3 15 36.7	1	19.68	
76	Weisse 775	7.5	0 44 43		3.087	3 17 54.5	2	19.68	
77	Weisse 778		0 45 27.80	1	3.104	+ 6 56		19.67	
78	20 Ceti		0 45 51.08	1	3.063	— 1 54 18.4	3	19.66	
79	Lacaille 241, (1st *)	6.0	0 46 20.21	1	2.944	25 32		19.65	
80	Lacaille 241, (2d *)	8.5	0 46 20.31	1	2.944	— 25 32		19.65	
81	Anonymous	9.2	0 46 48.26	1	3.078	+ 1 17		19.64	
82	B. A. C. 249		0 47 19.71	1	2.893	— 33 6		19.63	
83	O. Arg. S. 506	7.6	0 48 15.75	2	2.983	17 43		19.62	
84	Weisse 845	7.5	0 48 54.12	1	3.050	4 30		19.60	
85	Anonymous		0 49 15		2.926	27 6 24.4	1	19.60	
86	Lacaille 257	6.5	0 49 59.23	1	2.934	— 26 5		19.58	
87	Weisse 871	8.0	0 50 30.11	1	3.079	+ 1 20		19.57	
88	O. Arg. S. 542	8.0	0 51 29.63	2	2.915	— 27 51		19.55	
89	O. Arg. S. 544	7.2	0 51 49.41	4	2.961	20 23 21.4	1	19.55	
90	α Sculptoris		0 51 51.46	2	2.898	— 30 7		19.55	
91	Lalande 1737	8.5	0 53 24.02	1	3.119	+ 8 45		19.52	
92	Weisse 928		0 53 37		3.094	4 4 45.6	1	19.51	
93	Santini 58	6.5	0 55 24.50	1	3.119	8 23		19.47	
94	ε Piscium		0 55 40.80	10	3.112	+ 7 9		19.47	
95	O. Arg. S. 592	8.0	0 56 23.53	2	2.928	— 23 56		19.45	
96	26 Ceti		0 56 36.85	1	3.076	+ 0 36 56.8	3	19.45	
97	Anonymous	7.0	0 56 43		2.861	— 32 49 53.0	1	19.45	
98	O. Arg. S. 613	7.0	0 58 42		2.884	29 4 18.2	1	19.40	
99	Lacaille 301	7.3	0 58 50.19	1	2.894	27 42		19.40	
100	O. Arg. S. 623	7.6	0 59 11.58	2	2.894	27 28		19.39	
101	Weisse 1041	9.0	0 59 15.91	1	3.063	1 30		19.39	
102	B. A. C. 319	6.0	0 59 52.55	2	2.817	36 24		19.38	
103	O. Arg. S. 635		1 0 25.11	1	2.912	— 24 44		19.37	
104	ε Piscium		1 1 9.52	1	3.102	+ 4 55		19.35	
105	β Andromedæ		1 1 54		3.321	34 52 37.7	1	19.33	
106	Weisse 20	9.2	1 3 1.09	2	3.086	2 15		19.30	
107	Anonymous		1 4 9.74	1	3.076	0 35		19.28	
108	35 Ceti		1 5 16		3.083	1 43 51.8	1	19.25	
109	ζ Piscium, (1st *)		1 6 22		3.118	6 50 3.5	1	19.22	
110	ζ Piscium, (2d *)		1 6 22		3.118	6 50 15.2	1	19.22	
111	Polaris		1 8 2		18.839	+ 88 33 47.7	20	19.18	
112	Polaris, S. P.		1 8 2			47.0	14	19.18	
113	O. Arg. S. 752		1 11 54		2.839	— 29 28 14.7	1	19.08	
114	δ Cassiopeæ		1 16 41		3.817	+ 59 30 22.0	1	18.94	
115	B. A. C. 418	7.0	1 16 54.39	1	2.866	— 25 5		18.94	
116	θ Ceti		1 17 1.61	4	3.003	— 8 54		18.94	
117	Weisse 269		1 17 1		3.116	+ 5 45 14.2	1	18.94	
118	O. Arg. S. 818	8.6	1 17 47		2.823	— 29 13 51.0	2	18.91	
119	A Cassiopeæ		1 20 52		4.311	+ 69 32 32.7	1	18.82	
120	A Cassiopeæ, S. P.		1 20 52			29.4	2	18.82	
121	O. Arg. S. 857	7.3	1 21 26.08	2	2.826	— 27 50		18.81	
122	O. Arg. S. 861	7.0	1 22 9.67	1	2.848	— 25 30		18.78	
123	μ Piscium	4.5	1 22 50		3.117	+ 5 25 17.2	3	18.76	
124	η Piscium		1 23 59.81	9	3.197	+ 14 37 23.1	2	18.72	
125	Lacaille 435	6.8	1 25 20.74	1	+ 2.809	— 28 24		+ 18.68	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
126	Anonymous	9.0	1 26 47.91	1	+ 3.050	− 2 31		+ 18.64	
127	Lacaille 451	7.2	1 27 33		2.790	29 30 9.0	3	18.61	
128	Lacaille 459	7.2	1 28 25.79	2	2.705	36 3		18.58	
129	Anonymous	8.0	1 28 31		2.846	− 24 10 1.9	2	18.58	
130	103 Piscium		1 31 42		3.221	+ 15 54 51.4	1	18.47	
131	B. A. C. 504		1 32 15		2.820	− 25 44 6.6	2	18.45	
132	Weisse 607	9.0	1 34 4.37	1	3.107	+ 3 47		18.39	
133	ν Piscium		1 34 8.95	5	3.116	+ 4 48		18.39	
134	Lacaille 492	6.9	1 34 53		2.708	− 34 6 28.4	3	18.36	
135	Weisse 628	8.5	1 34 56.09	1	3.107	+ 3 43		18.36	
136	ο Piscium		1 38 0.25	2	3.154	+ 8 27 6.9	1	18.25	
137	Lalande 3237	9.0	1 38 42		3.046	− 2 37 44.8	2	18.23	
138	O. Arg. S. 1049	9.0	1 38 44.42	1	2.786	27 4		18.23	
139	O. Arg. S. 1053	7.5	1 39 3.61	1	2.785	27 6		18.21	
140	O. Arg. S. 1057	7.5	1 39 15.01	1	2.785	27 0		18.20	
141	O. Arg. S. 1058	9.0	1 39 17.18	1	2.785	27 0		18.20	
142	Lacaille 513	7.0	1 39 32		2.772	28 2 56.9	2	18.19	
143	O. Arg. S. 1066	7.3	1 40 31.90	2	2.885	− 18 11		18.16	
144	Santini 102		1 41 19.59	1	3.142	+ 6 58		18.13	
145	Weisse 775	9.0	1 43 44.10	1	3.218	+ 14 7		18.04	
146	B. A. C. 563		1 43 45		2.597	− 39 6 33.4	2	18.04	
147	Anonymous		1 43 46		3.153	+ 7 51 19.1	1	18.03	
148	O. Arg. S. 1116	8.2	1 43 47.20	1	2.818	− 23 28		18.03	
149	ε Cassiopeæ		1 44 21		4.225	+ 62 58 42.6	3	18.01	
	S. P.					39.1	1	18.01	
150	O. Arg. S. 1151	8.0	1 45 21.58	3	2.810	− 23 49		17.97	
151	Weisse 807	8.5	1 45 31.51	1	3.222	+ 14 11		17.97	
152	ξ Piscium		1 46 18.64	1	3.098	+ 2 29 42.6	2	17.94	
153	O. Arg. S. 1146	8.5:	1 46 20		2.774	− 26 31 5.5	1	17.94	
154	β Arietis		1 46 54.75	8	3.292	+ 20 7		17.91	
155	Anonymous	9.0	1 49 14.63	1	2.757	− 27 11		17.82	
156	ι Arietis		1 49 42		3.262	+ 17 7 57.6	2	17.80	
157	Weisse 880		1 50 4		3.198	+ 9 11 59.3		17.79	
158	O. Arg. S. 1181	9.0	1 50 5		2.863	− 18 41 25.4		17.79	
159	50 Cassiopeæ		1 51 33		4.967	+ 71 44 28.1	5	17.73	
	S. P.	3.8				28.0	4	17.73	
160	O. Arg. S. 1210	8.7	1 52 21		2.858	− 18 44 31.2	1	17.69	
161	Lacaille 586, (1st *)	7.6	1 52 27.90	3	2.797	23 25		17.69	
162	Lacaille 586, (2d *)	7.2	1 52 28.35	3	2.797	23 25		17.69	
163	O. Arg. S. 1245		1 55 1		2.754	26 18 37.3	1	17.58	
164	Lacaille 607	8.0	1 56 3		2.802	22 38 29.7	2	17.54	
165	O. Arg. S. 1256		1 56 12.58	1	2.735	27 25		17.53	
166	O. Arg. S. 1259	7.0	1 56 22		2.775	24 33 39.5	1	17.53	
167	O. Arg. S. 1261	8.0	1 56 29		2.807	22 35 12.4	1	17.52	
168	O. Arg. S. 1266		1 56 59.24	1	2.756	25 49		17.50	
169	Anonymous	7.3	1 57 3.92	2	2.857	− 18 11		17.50	
170	α Arietis		1 59 17.29	12	3.351	+ 22 47 55.3	8	17.40	
171	Lalande 3979	6.0	2 2 5		2.845	− 18 26 37.2	1	17.28	
172	O. Arg. S. 1344		2 2 36.42	2	2.774	23 39		17.25	
173	O. Arg. S. 1354	8.0	2 3 27.62	1	2.681	− 29 39		17.22	
174	η Arietis		2 4 58		3.332	+ 20 33 6.3	2	17.15	
175	Weisse 56	9.0	2 5 1.63	1	3.209	11 13		17.15	
176	Weisse 61	7.7	2 5 19.67	1	3.210	11 12 4.2	2	17.13	
177	19 Arietis		2 5 25		3.253	14 37 22.5	1	17.13	
178	ξ^1 Ceti		2 5 35.05	1	3.172	+ 8 12		17.12	
179	O. Arg. S. 1421	8.0	2 8 46		2.859	− 16 37 47.0	2	16.97	
180	O. Arg. S. 1433		2 9 19.58	1	2.705	27 10		16.95	
181	67 Ceti		2 10 0.08	6	2.983	− 7 4		16.92	
182	Weisse 188	8.5	2 13 1.84	1	3.240	+ 13 1		16.77	
183	Weisse 209	9.2	2 13 53.02	2	3.246	+ 13 17		16.73	
184	Lalande 4410	6.0	2 15 29.07	1	2.825	− 18 18		16.65	
185	O. Arg. S. 1522	7.0	2 16 20		2.814	18 59 20.6	1	16.61	
186	B. A. C. 743	6.7	2 17 8.51	1	2.678	27 37		16.57	
187	O. Arg. S. 1535	8.7	2 17 48		2.815	18 47 53.7	2	16.54	
188	Lacaille 726	6.4	2 18 2.77	3	2.695	26 29		16.53	
189	O. Arg. S. 1551	6.0	2 19 34		2.853	− 15 58 20.8	1	16.45	
190	ξ^2 Ceti		2 20 43.16	5	+ 3.178	+ 7 49 50.5	2	+ 16.39	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
191	B. A. C. 765	5.3	2 22 4		+ 2.540	− 34 26 22.7	2	+ 16.32	
192	Weisse 363	7.5	2 22 17.92	1	3.180	+ 7 52		16.31	
193	Lacaille 750	8.5	2 22 40.62	1	2.728	− 23 50		16.29	
194	Anonymous	8.4	2 23 2.27	2	2.659	27 53		16.27	
195	B. A. C. 774	7.0	2 23 56.10	1	2.692	25 49		16.23	
196	Anonymous		2 24 26		2.758	− 21 42 45.0	1	16.20	
197	Weisse (2) 587	8.2	2 24 26.79	1	3.386	+ 21 42		16.20	
198	σ Ceti	4.3	2 25 26		2.847	− 15 51 39.3	3	16.15	
199	Anonymous	7.3	2 26 10		2.550	33 13 34.9	1	16.11	
200	O. Arg. S. 1630	7.2	2 26 18.22	3	2.655	27 37		16.11	
201	B. A. C. 790	6.7	2 27 42.84	1	2.629	28 51		16.04	
202	Lacaille 787	6.2	2 28 12.85	2	2.738	22 32		16.01	
203	O. Arg. S. 1655		2 28 30.13	1	2.811	17 54		15.99	
204	O. Arg. S. 1664	8.5	2 29 32.75	1	2.652	27 18		15.94	
205	Lacaille 802		2 30 59.70	1	2.596	29 36		15.86	
206	Lacaille 803	6.3	2 31 23		2.714	23 36 8.1	3	15.84	
207	δ Ceti		2 32 20		3.068	0 16 38.7	1	15.79	
208	Anonymous	7.0	2 32 46.26	2	2.571	− 31 13		15.76	
209	Weisse (2) 805	7.8	2 33 34		3.334	+ 21 38 33.1	2	15.72	
210	O. Arg. S. 1735		2 34 3.38	1	2.568	− 31 14		15.69	
211	O. Arg. S. 1738		2 34 5		2.688	24 44 18.6	1	15.69	
212	O. Arg. S. 1744	7.5	2 34 40.49	1	2.791	− 18 26		15.66	
213	Weisse 603	9.4	2 35 14.18	2	3.261	+ 12 40		15.63	
214	γ Ceti		2 36 2.93	3	3.111	2 38 37.5	2	15.58	
215	Weisse 615	8.1	2 36 6.93	3	3.262	+ 12 41 35.1	1	15.58	
216	Lacaille 838	6.3	2 36 45.44	1	2.609	− 28 45		15.54	
217	Weisse 639	7.0	2 37 29.91	1	3.262	+ 12 35		15.50	
218	B. A. C. 854	6.7	2 38 1.24	1	2.656	− 26 4		15.47	
219	Lacaille 865	6.5	2 39 56.42	1	2.655	− 25 54		15.37	
220	η Persei		2 40 30		4.317	+ 55 18 40.9	2	15.34	
221	Weisse 694	9.0	2 40 44.61	1	3.262	12 22		15.32	
222	Weisse 702	8.4	2 41 7.58	1	3.263	12 27 1.2	1	15.30	
223	π Arietis	6.3	2 41 29.12	2	3.335	16 53		15.28	
224	Weisse 724	7.8	2 42 32.60	2	3.275	+ 13 7 40.7	1	15.22	
225	Anonymous	8.0	2 42 43		2.477	− 34 21 57.8	3	15.21	
226	Weisse 728	8.0	2 42 47.27	1	2.872	12 55		15.20	
227	β Fornacis	4.0	2 43 2		2.506	32 59 44.6	1	15.19	
228	O. Arg. S. 1838	8.0	2 43 11.73	1	2.790	17 51		15.18	
229	γ Fornacis	6.0	2 43 40		2.661	− 25 8 16.8	1	15.16	
230	Weisse 746	8.7	2 43 49.48	2	3.273	+ 12 54 47.6	1	15.16	
231	B. A. C. 894	5.5	2 46 0.62	2	2.531	− 31 33		15.02	
232	Anonymous	7.9	2 47 29		2.680	23 43 6.4	3	14.93	
233	O. Arg. S. 1887		2 47 59		2.683	− 23 31 19.5	1	14.90	
234	Weisse 841	8.3	2 48 31.57	3	3.290	+ 13 20 49.5	1	14.88	
235	ρ^3 Arietis	6.0	2 48 32.34	1	3.354	+ 17 28		14.88	
236	O. Arg. S. 1901	6.5	2 48 43.62	1	2.534	− 31 28		14.86	
237	O. Arg. S. 1910	8.2	2 49 41.12	1	2.674	23 47 16.8	1	14.80	
238	4 Eridani	6.7	2 51 10.33	2	2.659	− 24 25		14.72	
239	ε Arietis		2 51 12.80	2	3.417	+ 20 47		14.72	
240	Anonymous	8.0	2 51 22.21	1	3.054	− 1 8		14.70	
241	O. Arg. S. 1930	7.6	2 51 27		2.804	16 24 27.2	2	14.70	
242	Anonymous	8.3	2 52 38.12	3	2.597	27 28		14.63	
243	Lacaille 951	6.7	2 53 21		2.436	34 44 55.7	2	14.59	
244	O. Arg. S 1968	7.4	2 54 43.08	2	2.577	− 28 11		14.50	
245	α Ceti		2 54 57.86	6	3.129	+ 3 32 17.7	7	14.49	
246	O. Arg. S. 1977	7.5	2 55 35		2.757	− 18 45 37.7	1	14.45	
247	Weisse 976		2 55 49.92	3	3.302	+ 13 55 13.7	1	14.44	
248	τ^3 Eridani	5.6	2 56 13.16	2	2.654	− 24 10 31.1	2	14.41	
249	Anonymous	8.2	2 57 41.68	3	3.301	+ 13 44		14.33	
250	Anonymous	9.0	2 58 0.49	1	3.300	13 41		14.31	
251	Anonymous	8.3	2 58 4.25	2	3.301	+ 13 44		14.30	
252	Anonymous	7.5	2 58 37		2.607	− 26 19 31.3	2	14.26	
253	Anonymous	6.5	2 58 46.57	1	2.415	− 34 56		14.26	
254	53 Arietis	6.0	2 59 33.02	1	3.366	+ 17 20 16.0	1	14.21	
255	Weisse 1069		3 0 26		+ 3.086	+ 0 51 52.3	1	+ 14.16	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
256	Lacaille 983	7.5	3 1 28.68	1	+ 2.454	— 32 53		+ 14.09	
257	Lacaille 988	6.2	3 2 6.39	1	2.502	— 30 50		14.05	
258	Weisse 20	7.0	3 2 52		3.264	+ 11 20 21.7	1	14.00	
259	δ Arietis		3 3 37.77	6	3.406	19 12		13.96	
260	B. A. C. 987	6.0	3 3 44		3.285	+ 12 30 52.3	1	13.95	
261	Lacaille 996	6.6	3 4 24		2.637	— 24 16 20.6	4	13.91	
262	12 Eridani	6.0	3 6 7.83	1	2.522	29 32		13.79	
263	Anonymous	7.3	3 6 43.35	1	2.753	— 18 9		13.76	
264	Weisse 101	8.2	3 6 45.63	1	3.289	+ 12 33		13.76	
265	ζ Arietis		3 6 51.60	2	3.437	+ 20 32		13.75	
266	Anonymous	8.5	3 7 1.27	1	2.753	— 18 9		13.74	
267	Anonymous	9.0	3 7 12.87	1	3.290	+ 12 37		13.73	
268	Lacaille 1010	7.0	3 7 24.36	2	2.551	— 28 6		13.72	
269	Anonymous	7.5	3 7 30.62	1	2.520	29 29		13.71	
270	B. A. C. 1012	5.7	3 8 58		2.580	— 26 37 15.4	2	13.61	
271	Anonymous	9.0	3 9 55		3.328	+ 14 34 50.8	1	13 55	
272	Weisse 173	7.1	3 10 39.37	2	3.331	+ 14 40 24.0	1	13 51	
273	O. Arg. S. 2173	9.0	3 11 3		2.733	— 18 54 20.4	1	13 48	
274	Lacaille 1041	6.4	3 11 8.98	2	2.630	24 2 9.9	2	13 47	
275	Lacaille 1041		3 11 9		2.640	24 2 9.6	2	13.47	
276	Lacaille 1048	7.5	3 11 50.69	1	2.569	— 26 53		13.43	
277	Weisse (2) 255		3 12 13.55	3	3.341	+ 15 9		13.40	
278	O. Arg. S. 2189		3 12 17		2.728	— 19 4 11.3	2	13.40	
279	τ⁴ Eridani	4.2	3 13 19		2.663	22 16 8.1	2	13.33	
280	B. A. C. 1039	4.7	3 13 28		2.614	— 24 37 55.3	2	13.32	
281	α Persei		3 14 21		4.240	+ 49 21 35.0	1	13.27	
282	Anonymous	7.5	3 14 22		2.612	— 24 37 17.9	1	13.27	
283	B. A. C. 1046	7.0	3 14 44.95	1	2.565	26 47		13.24	
284	B. A. C. 1047	6.7	3 14 46.57	1	2.555	27 7		13.24	
285	B. A. C. 1049	5.9	3 15 17.16	3	2.621	24 8 21.7	1	13.20	
286	B. A. C. 1054	6.0:	3 16 8		2.578	26 5 27.4	1	13.15	
287	O. Arg. S. 2237	7.2	3 16 53.04	2	2.743	— 17 59		13.10	
288	Weisse 295	7.7	3 17 23.54	1	3.212	+ 9 32		13.06	
289	Lacaille 1079	7.7	3 17 46.42	1	2.522	— 28 25		13.04	
290	O. Arg. S. 2245	6.7	3 17 53.54	2	2.673	21 26		13.03	
291	Anonymous	9.0	3 18 0		2.723	— 18 58 14.7	2	13.03	
292	Anonymous	9.2	3 19 13.09	1	3.164	+ 5 9		12.94	
293	Weisse 334	6.5	3 19 36.26	2	3.294	+ 12 15		12.92	
294	Anonymous		3 19 40.83	1	2.533	— 27 48		12.91	
295	B. A. C. 1073	6.0	3 20 28.08	1	2.531	27 49		12.86	
296	Lacaille 1102	7.7	3 20 53.52	1	2.502	— 29 1		12.83	
297	B. A. C. 1061		3 21 1.66	1	18.546	+ 86 13		12.82	
298	Anonymous	8.8	3 22 12.01	1	3.170	+ 5 27		12.75	
299	O. Arg. S. 2311	6.8	3 23 28.57	4	2.611	— 23 57 38.4	2	12.66	
300	Lacaille 1121	8.0	3 24 45		2.509	28 24 25.2	1	12.57	
301	Lacaille 1124	7.0	3 25 48		2.560	26 5 27.7	4	12.50	
302	Lacaille 1127	6.5	3 25 53.01	1	2.366	34 1		12.49	
303	ε Eridani		3 26 20.15	9	2.889	9 56		12.46	
304	O. Arg. S. 2343	8.5	3 26 29		2.558	26 8 2.4	2	12.45	
305	Lacaille 1134	6.2	3 28 12.83	2	2.437	31 5		12.33	
306	10 Tauri		3 29 43.72	1	3.061	0 3		12.23	
307	Anonymous	7.8	3 29 49		2.706	19 0 48.2	2	12.22	
308	O. Arg. S. 2388	9.0	3 29 55		2.600	— 23 58 58.1	1	12.21	
309	Weisse 575	8.0	3 31 25.85	1	3.115	+ 2 17		12.11	
310	B. A. C. 1119	7.0	3 31 30.96	4	3.379	16 4 44.3	2	12.10	
311	Weisse 580	7.5	3 31 38.00	1	3.115	+ 2 19		12.09	
312	Anonymous	9.0	3 31 47		2.629	— 22 33 29.2	1	12.08	
313	Lacaille 1160	6.8	3 32 32.35	3	2.410	— 31 45		12.03	
314	δ Persei		3 33 0		4.234	+ 47 20 10.7	3	12.00	
315	Lacaille 1171	6.5	3 34 6.74	1	2.477	— 28 56		11.92	
316	Lacaille 1176	7.0	3 34 38.06	1	2.318	35 1		11.88	
317	Anonymous		3 35 1.24	1	2.489	— 28 24		11.86	
318	Rumker 945		3 35 26		2.593	+ 23 55 41.5	1	11.83	
319	Lacaille 1186	7.2	3 35 58.25	1	2.565	— 25 6		11.79	
320	O. Arg. S. 2468	8.5	3 36 1.79	2	+ 2.597	— 23 41 45.6	2	+ 11.79	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ . ″		″	
321	Rumker 952	9.0	3 36 5		+ 3.547	+ 23 41 18.1	2	+ 11.78	
322	16 Tauri	6.5	3 36 29		3.551	23 50 46.3	2	11.75	
323	17 Tauri	5.9	3 36 34		3.547	23 40 13.3	9	11.75	
324	1 Pleiadum	9.0	3 37 8		3.546	23 35 37.4	4	11.71	
325	4 Pleiadum		3 37 18		3.554	23 53 40.5	1	11.69	
326	20 Tauri	5.0	3 37 30		3.554	+ 23 55 38.0	2	11.68	
327	Lacaille 1196	6.5	3 37 32.61	1	2.408	— 31 27		11.68	
328	7 Pleiadum	9.0	3 37 33		3.546	+ 23 35 54.4	4	11.68	
329	O. Arg. S. 2488	9.0	3 37 47		2.624	— 22 22 54.2	1	11.66	
330	8 Pleiadum		3 37 53		3.551	+ 23 45 21.4	2	11.66	
331	Weisse 845		3 37 54.69	1	3.551	23 45		11.66	
332	23 Tauri	6.5	3 38 2		3.546	23 30 32.3	8	11.64	
333	10 Pleiadum		3 38 8.04	1	3.553	+ 23 49		11.64	
334	O. Arg. S. 2495	7.5	3 38 12.47	2	2.467	— 29 3		11.63	
335	13 Pleiadum		3 38 48		3.548	+ 23 33 25.8	1	11.59	
336	O. Arg. S. 2504	7.0	3 38 49		2.590	— 23 49 15.4	1	11.59	
337	24 Tauri	8.3	3 39 2		3.551	+ 23 40 49.3	5	11.57	
338	B. A. C. 1165	7.8	3 39 10		3.555	23 51 9.3	2	11.56	
339	η Tauri	5.4	3 39 10.07	9	3.551	23 40 9.3	11	11.56	
340	Weisse (2) 878	8.1	3 39 38.18	3	3.391	16 16 8.6	1	11.53	
341	Weisse (2) 887	8.0	3 40 2.86	2	3.397	16 31 39.5	1	11.50	
342	B. A. C. 1171	8.0	3 40 10		3.558	+ 23 54 45.1	2	11.49	
343	B. A. C. 1179	7.6	3 40 45.02	1	2.444	— 29 48		11.45	
344	τ^6 Eridani	6.2	3 40 49.41	1	2.591	— 23 39 57.4	3	11.44	
345	27 Tauri	6.5	3 40 50.59	3	3.552	+ 23 37 20.4	11	11.44	
346	28 Tauri	7.2	3 40 51.74	3	3.554	23 42 20.3	11	11.44	
347	33 Pleiadum	8.5	3 41 6		3.557	+ 23 49 2.1	1	11.43	
348	τ^7 Eridani	5.0	3 41 38		2.575	— 24 18 36.0	1	11.39	
349	Lacaille 1231	6.2	3 42 0		2.516	26 45 41.9	2	11.36	
350	O. Arg. S. 2556	6.1	3 42 25.92	2	2.641	— 21 20		11.33	
351	B. A. C. 1195	7.8	3 42 33.22	2	3.553	+ 23 22 6.2	7	11.32	
352	O. Arg. S. 2571	8.2	3 43 43.61	1	2.494	— 27 34		11.23	
353	Anonymous	7.0	3 43 58		2.686	19 10 21.4	1	11.22	
354	Anonymous	6.6	3 44 45.82	1	2.360	— 32 41		11.16	
355	B. A. C. 1206	6.5	3 45 9.99	3	3.410	+ 16 54 26.4	1	11.13	
356	ζ Persei		3 45 20		3.753	31 27 54.0	1	11.12	
357	Weisse (2) 1013	9.0	3 46 35.78	1	3.472	19 41		11.03	
358	Weisse (2) 1015	9.0	3 46 37.66	3	3.412	16 55 38.7	1	11.02	
359	B. A. C. 1211		3 46 47		9.614	80 18 15.1	5	11.01	
	S. P.					15.4	4	11.01	
360	Weisse (2) 1019	8.7	3 46 52.54	1	3.472	+ 19 41		11.00	
361	O. Arg. S. 2623	7.4	3 47 54.23	3	2.584	— 23 32 29.9	1	10.93	
362	B. A. C. 1222	8.4	3 48 30.40	1	2.473	— 28 5		10.89	
363	Anonymous	8.0	3 48 45.07	1	3.474	+ 19 41		10.87	
364	Lacaille 1284	7.0	3 49 43.18	1	2.514	— 26 20 24.0	1	10.79	
365	O. Arg. S. 2663	8.0	3 49 47		2.507	26 37 30.0	2	10.79	
366	O. Arg. S. 2666		3 49 55.54	1	2.503	26 20		10.78	
367	B. A. C. 1229	7.5	3 49 56.59	2	2.791	14 0 26.4	1	10.78	
368	Lacaille 1291	7.0	3 50 32.13	1	2.418	30 4		10.74	
369	Anonymous	8.0	3 50 46		2.684	18 57 40.1	1	10.72	
370	γ Eridani	3.0	3 51 29.94	6	2.792	13 54 32.2	2	10.67	
371	O. Arg. S. 2710	9.0	3 53 45.44	1	2.437	29 10		10.50	
372	τ^9 Eridani	6.1	3 53 57.52	1	2.555	24 25		10.48	
373	Anonymous	8.7	3 54 37.66	1	2.483	27 13 58.8	1	10.43	
374	B. A. C. 1250	6.0	3 55 5.58	1	2.388	30 53		10.40	
375	Anonymous	7.0	3 55 9		2.594	22 40 16.7	1	10.39	
376	Lacaille 1317	7.5	3 55 28		2.490	26 54 42.3	1	10.37	
377	O. Arg. S. 2741	7.8	3 55 47.90	2	2.621	— 21 25		10.35	
378	A^1 Tauri		3 56 26		3.529	+ 21 41 47.4	1	10.30	
379	Lacaille 1324	8.5	3 56 40.67	1	2.438	— 28 55		10.28	
380	O. Arg. S. 2761	7.3	3 56 56.57	3	2.463	27 54		10.26	
381	Lacaille 1329	7.0	3 57 36		2.505	26 14 7.2	3	10.21	
382	Anonymous	9.0	3 57 39		2.489	— 26 52 5.2	1	10.21	
383	Weisse (2) 1261	8.3	3 58 42.36	4	3.431	+ 17 16 58.4	1	10.13	
384	O. Arg. S. 2796	6.2	3 59 38.45	2	2.530	— 20 54		10.05	
385	B. A. C. 1273	7.6	3 59 51.27	1	+ 2.456	— 28 2		+ 10.03	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
386	Lacaille 1346	7.2	4 0 4.96	2	+ 2.364	− 31 25		+ 10.02	
387	O. Arg. S. 2803		4 0 11.77	1	2.565	− 23 40		10.02	
388	Weisse (2) 1	8.8	4 2 1.76	2	3.445	+ 17 45		9.88	
389	37 Eridani	6.0	4 3 32.83	2	2.924	− 7 12		9.76	
390	Anonymous	9.0	4 3 40.57	1	2.446	28 10		9.75	
391	Anonymous	6.7	4 3 45		2.662	19 22 15.8	1	9.74	
392	Lacaille 1370	7.7	4 4 5.94	2	2.516	− 25 24		9.72	
393	Weisse (2) 65	8.3	4 4 35.33	2	3.441	+ 17 28 15.7	1	9.68	
394	Anonymous	8.2	4 4 47		2.476	− 26 58 27.7	2	9.66	
395	Lacaille 1373	8.1	4 4 52.89	1	2.514	25 27		9.66	
396	o^1 Eridani		4 5 1.98	5	2.924	7 12 17.6	1	9.65	
397	Anonymous	9.2	4 6 53.05	1	2.438	− 28 18		9.50	
398	Weisse (2) 118	8.0	4 7 3.41	1	3.789	+ 31 19		9.49	
399	Lalande 7931	8.3	4 7 4.84	1	2.560	− 23 29 13.1	1	9.49	
400	Weisse (2) 120	8.5	4 7 6.15	1	3.789	+ 31 19		9.49	
401	Anonymous	7.7	4 8 29.92	1	2.412	− 29 10		9.38	
402	O. Arg. S. 2922	7.5	4 8 29.99	2	2.376	30 28		9.38	
403	Lacaille 1389	7.0	4 8 33.55	1	2.322	− 32 23		9.37	
404	ω^2 Tauri		4 9 4		3.508	+ 23 13 48.5	1	9.33	
405	Anonymous	7.4	4 9 32.78	1	2.411	− 29 11		9.30	
406	O. Arg. S. 2930	7.8	4 9 32.85	3	2.376	30 36		9.30	
407	O. Arg. S. 2938	7.6	4 9 48.02	4	2.554	23 35 24.4	1	9.28	
408	O. Arg. S. 2939	6.0	4 9 50		2.581	22 30 2.6	1	9.27	
409	Anonymous	9.5	4 11 26.01	1	2.374	30 25		9.15	
410	B. A. C. 1327		4 11 34		2.100	− 39 13 52.1	1	9.14	
411	γ Tauri		4 11 50		3.397	+ 15 17 12.6	1	9.12	
412	Weisse (2) 248	6.5	4 12 17.36	2	3.478	+ 18 24 14.1	1	9.08	
413	Anonymous	9.3	4 13 7.76	1	2.462	− 27 3		9.01	
414	Anonymous	8.7	4 13 18		2.546	− 23 45 20.9	1	9.00	
415	Weisse (2) 270	7.3	4 13 25.39	1	3.462	+ 18 4 56.0	1	9.00	
416	Anonymous	8.0	4 13 37.43	1	2.336	− 31 27		8.98	
417	B. A. C. 1340	7.8	4 13 51.36	1	2.505	− 25 22		8.96	
418	δ Tauri		4 14 51.92	1	3.443	+ 17 12 39.5	4	8.88	
419	Weisse (2) 348	7.6	4 16 34.99	3	3.476	18 34		8.75	
420	Weisse (2) 350		4 16 52.23	1	3.745	29 10		8.72	
421	Weisse (2) 363	8.7	4 17 20.16	1	3.476	+ 18 32		8.69	
422	Anonymous	7.8	4 17 28		2.492	− 25 42 46.7	1	8.67	
423	Weisse (2) 376	7.7	4 17 42.90	3	3.476	+ 18 32 30.1	1	8.66	
424	O. Arg. S. 3044	8.8	4 17 48.12	2	2.432	− 27 58		8.65	
425	O. Arg. S. 3061	8.0	4 19 13.65	1	2.415	− 28 31		8.54	
426	ϵ Tauri		4 20 26.72	4	3.486	+ 18 52		8.44	
427	O. Arg. S. 3082	8.0	4 20 35.15	2	2.558	− 23 27 11.7	2	8.43	
428	Lacaille 1459		4 21 52.14	1	2.396	29 34		8.33	
449	O. Arg. S. 3108	8.8	4 22 19		2.557	23 24 53.9	2	8.29	
430	Lacaille 1474		4 23 46		2.461	− 26 35 8.6	2	8.18	
431	Weisse 512	7.7	4 23 51.22	3	3.638	+ 24 53		8.17	
432	Lacaille 1480	7.3	4 24 9.53	1	2.385	− 29 20		8.14	
433	Lacaille 1485	8.3	4 24 22.76	4	2.389	29 11		8.13	
434	Anonymous	8.0	4 24 53.19	2	2.536	23 40		8.08	
435	O. Arg. S. 3154		4 25 45.90	2	2.387	− 29 11		8.02	
436	Weisse 554		4 26 45		3.186	+ 5 16 21.6	1	7.94	
437	Lacaille 1504	8.0	4 26 47		2.486	− 25 30 17.5	1	7.94	
438	Lacaille 1509	7.5	4 27 22.90	1	2.477	− 25 51 24.3	2	7.89	
439	α Tauri		4 27 53.44	22	3.430	+ 16 13 28.3	8	7.85	
440	Anonymous	9.5	4 28 10.66	1	3.199	+ 5 53		7.82	
441	Anonymous	9.0	4 28 12.69	1	2.446	− 26 58		7.82	
442	Anonymous	8.2	4 28 39.87	1	2.337	− 30 50		7.78	
443	Weisse (2) 620	7.9	4 28 50.86	2	3.658	+ 25 26		7.77	
444	Lacaille 1521	7.2	4 29 4		2.489	− 25 19 47.3	1	7.75	
445	Anonymous	9.5	4 29 4.77	1	3.199	+ 5 52		7.75	
446	Lacaille 1522	6.5	4 29 26.42	2	2.501	− 24 50		7.72	
447	Weisse (2) 637	8.7	4 29 40.58	1	3.629	+ 24 16		7.70	
448	υ^7 Eridani	4.0	4 30 6.49	1	2.335	− 30 50		7.67	
449	Anonymous	9.0	4 30 39		2.446	26 50 58.9	1	7.62	
450	Lacaille 1531	7.0	4 31 0		+ 2.432	− 27 20 1.1	1	+ 7.59	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
451	B. A. C. 1439	6.0	4 31 24.89	1	+ 2.329	− 30 59		+ 7.56	
452	Anonymous	8.7	4 32 2		2.439	27 3 44.0	1	7.51	
453	Anonymous	8.2	4 32 21.00	3	2.426	− 27 31		7.48	
454	Weisse (2) 713	9.2	4 33 1.12	1	3.584	+ 22 24		7.43	
455	Lacaille 1540		4 33 8		2.467	− 25 59 0.5	1	7.42	
456	Weisse (2) 719	8.8	4 33 19.27	2	3.583	+ 22 21		7.41	
457	Weisse (2) 720	8.5	4 33 20.29	1	3.585	22 27		7.41	
458	Anonymous		4 33 35		3.247	+ 8 0 20.5	1	7.38	
459	B. A. C. 1450	6.9	4 34 17.48	2	2.498	− 24 46		7.33	
460	54 Eridani		4 34 19.04	1	2.620	19 56		7.32	
461	Lacaille 1549	7.9	4 35 6.80	4	2.397	28 26		7.26	
462	Lacaille 1553	7.8	4 35 20		2.060	39 4 50.0	1	7.24	
463	Anonymous	7.0	4 36 29		2.530	23 26 45.9	1	7.15	
464	Lalande 8923	7.7	4 37 6.36	1	2.997	3 27		7.10	
465	O. Arg. S. 3325	8.8	4 37 16		2.512	24 6 42.5	2	7.08	
466	O. Arg. S. 3326	7.8	4 37 23.92	3	2.518	23 53		7.07	
467	Lacaille 1568	8.2	4 37 48		2.052	39 7 24.9	1	7.04	
468	μ Eridani		4 38 30.21	7	2.995	3 31		6.98	
469	B. A. C. 1471	7.6	4 38 37.38	2	2.410	27 50		6.97	
470	O. Arg. S. 3360	8.0	4 40 7.26	2	2.379	− 28 54		6.85	
471	α Camelopardalis	4.0	4 40 9		5.908	+ 66 5 55.8	3	6.85	
	S. P.					56.7	3	6.85	
472	Lacaille 1580	7.2	4 40 17.30	1	2.475	− 25 26		6.84	
473	Anonymous	9.5	4 40 46		3.311	+ 10 45 58.5	1	6.80	
474	B. A. C. 1482	6.7	4 40 50.42	2	2.393	− 28 20 33.0	1	6.79	
475	Anonymous	8.8	4 40 53		3.310	+ 10 42 54.9	1	6.79	
476	O. Arg. S. 3382	7.5	4 41 4		2.443	− 26 33 21.3	1	6.78	
477	O. Arg. S. 3389	7.6	4 41 29.09	4	2.355	− 29 40		6.74	
478	Weisse 926		4 43 27		3.314	+ 10 49 31.0	1	6.57	
479	Lacaille 1611	8.0:	4 43 59		2.176	− 35 20 2.0	1	6.53	
480	O. Arg. N. 5259	7.0	4 44 15.70	1	4.653	+ 51 22		6.51	
481	B. A. C. 1496		4 44 37.61	1	7.493	+ 74 2		6.48	
482	Anonymous	9.0	4 44 41		2.521	− 23 31 55.6	1	6.47	
483	Lacaille 1617		4 44 43		2.175	35 20 45.7	1	6.47	
484	O. Arg. S. 3437	7.1	4 44 52.93	5	2.416	− 27 22		6.46	
485	Anonymous	9.2	4 45 6.19	1	3.598	+ 22 33		6.44	
486	Lacaille 1615	7.0	4 45 21.84	1	2.466	− 25 34		6.42	
487	Weisse (2) 1012	9.0	4 45 27.10	1	3.597	+ 22 32		6.41	
488	Weisse 986		4 45 37		3.257	8 19 11.2	1	6.39	
489	B. A. C. 1510		4 47 3.70	1	7.452	73 51		6.28	
490	Weisse (2) 1047	9.0	4 47 13		3.736	+ 27 36 36.7	2	6.26	
491	Anonymous	7.3	4 47 14.31	3	2.312	− 30 53		6.26	
492	Weisse 1028	7.5	4 47 19.69	1	3.255	+ 8 22 10.2	1	6.25	
493	ι Aurigæ	3.5	4 47 52.82	1	3.896	+ 32 56 26.8	1	6.21	
494	O. Arg. S. 3488	8.2	4 48 50		2.425	− 26 57 29.9	1	6.13	
495	O. Arg. S. 3492	8.0	4 49 5		2.455	25 52 49.7	1	6.11	
496	O. Arg. S. 3494	7.6	4 49 9.39	3	2.363	29 7		6.10	
497	B. A. C. 1531	7.5	4 49 44		2.452	25 57 13.8	1	6.05	
498	O. Arg. S. 3506	7.2	4 49 46.17	3	2.518	23 30		6.05	
499	O. Arg. S. 3513	7.9	4 50 14.11	2	2.396	27 56		6.01	
500	O. Arg. S. 3516	7.2	4 50 33.98	1	2.517	23 32		5.98	
501	Lacaille 1659, (1st *)	7.8	4 50 39.41	1	2.002	39 59		5.98	
502	Lacaille 1659, (2d *)	7.6	4 50 44.62	1	2.002	− 39 59		5.97	
503	β Camelopardalis	4.5:	4 50 59		5.304	+ 60 13 55.3	4	5.95	
	S. P.					56.0	1	5.95	
504	Anonymous	7.1	4 53 2.53	3	2.360	− 29 5		5.78	
505	Anonymous	6.8	4 53 36.43	3	2.373	28 38		5.73	
506	Anonymous	7.2	4 54 10		2.467	25 16 2.2		5.68	
507	Lacaille 1678	7.0	4 54 26.45	1	2.103	37 5		5.66	
508	O. Arg. S. 3576	8.3	4 54 28.93	1	2.339	− 29 47		5.65	
509	Anonymous	9.0	4 54 38.02	1	3.205	+ 5 55		5.64	
510	ι Tauri		4 54 43.74	1	3.497	+ 21 23		5.64	
511	Anonymous	7.8	4 56 1.42	2	2.284	− 31 32		5.53	
512	Anonymous	8.5	4 56 12.87	1	2.284	− 31 32		5.51	
513	11 Orionis		4 56 34.29	3	3.421	+ 15 12 21.3	2	5.48	
514	Lacaille 1693	7.0	4 56 47.56	3	2.292	− 31 14		5.46	
515	Lacaille 1704		4 58 5.19	1	+ 2.483	− 24 31		+ 5.35	

Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
		h. m. s.		s.	° ′ ″		″	
O. Arg. S. 3630	8.5	4 58 21.00	3	+ 2.392	− 27 51		+ 5.33	
m Tauri		4 59 10.63	1	3.503	+ 18 27		5.26	
γ¹ Cœli	5.7	4 59 22.40	1	2.146	− 35 41		5.25	
ε Leporis		4 59 32.16	4	2.536	− 24 33 30.8	1	5.23	
B. A. C. 1565		4 59 33.94	1	9.732	+ 79 3		5.23	
Anonymous	8.7	4 59 38		2.502	− 23 50 26.3	2	5.22	
O. Arg. S. 3670	9.0	5 1 0.65	1	2.363	28 45		5.10	
O. Arg. S. 3680	9.5	5 1 28.02	1	2.362	− 28 46		5.07	
15 Orionis		5 1 41.39	1	3.428	+ 15 25		5.06	
O. Arg. S. 3691	8.2	5 2 9.20	3	2.350	− 29 11		5.01	
Weisse (2) 49	8.6	5 3 39.17	2	3.[illegible]	+ 30 16		4.[illegible]	
O. Arg. S. 3717	8.6	5 3 40.55	1	2.456	− 25 26		4.[illegible]	
O. Arg. S. 3720	8.7	5 3 43.37	2	2.453	25 23		4.[illegible]	
Anonymous	9.3	5 4 33.62	1	2.451	25 24		4.80	
Anonymous	9.4	5 4 55.35	1	2.456	25 24		4.77	
Lacaille 1738	7.2	5 5 3.34	1	2.[illegible]	− 26 5		4.76	
Weisse (2) 111	7.2	5 5 17.51	2	3.[illegible]	+ 30 14		4.74	
B. A. C. 1615	7.0	5 6 6.34	2	2.[illegible]	− 30 24		4.67	
Aurigæ		5 6 21		4.41[illegible]	+ 45 51 2.1	9	4.65	
Lacaille 1754	7.3	5 6 42		2.372	− 27 24 0.2	1	4.62	
Weisse 136	6.0	5 6 49.[illegible]	1	2.[illegible]	[illegible] 18 55.7	1	4.61	
Lacaille 1753	6.5	5 7 15.[illegible]	1	2.[illegible]	27 21		4.[illegible]	
Anonymous	6.5	5 7 1[illegible].64	1	2.[illegible]	27 20		4.57	
Orionis		5 7 4[illegible]	1[illegible]	2.[illegible]	[illegible] 21 50.0	4	4.53	
O. Arg. S. 3790		5 8 3[illegible]	1	2.[illegible]	27 30		4.46	
Lacaille 1770	6.[illegible]	5 9 39.[illegible]	3	2.365	29 29		4.37	
Lacaille 1774	7.2	5 9 5[illegible]	2	2.321	29 55		4.35	
O. Arg. S. 3812	9.2	5 1[illegible]	1	2.3[illegible]	− 27 27		4.33	
[illegible]	6.0	5 1[illegible]	1	3.5[illegible]	+ 21 56		4.27	
O. Arg. S. 3830	7.[illegible]	5 11 [illegible]	5	2.4[illegible]4	− 27 25		4.20	
Anonymous	6.[illegible]	5 12 [illegible]	2	2.451	25 23		4.12	
Anonymous	[illegible]	5 12 [illegible]	2	2.450	25 25		4.12	
[illegible] 3862	[illegible]	5 1[illegible]	2	2.346	29 1		4.06	
[illegible]	[illegible]	5 1[illegible]	3	2.3[illegible]	27 31		4.01	
[illegible]	[illegible]	5 15 24.4[illegible]	4	2.336	29 20 54.2	1	3.80	
[illegible]	[illegible]	5 1[illegible]	2	2.5[illegible]9	− 20 11		3.78	
[illegible]		5 17 [illegible]	1[illegible]	3.7[illegible]	+ 28 29 7.0	4	3.70	
[illegible]		5 17 [illegible]	1	3.576	+ 21 0		3.[illegible]	
[illegible]		5 17 34		2.4[illegible]	− 26 50 23.0	1	3.[illegible]	
[illegible]	7.2	5 17 [illegible]	2	2.254	− 31 48		3.[illegible]	
[illegible]		5 19 [illegible]	1	3.4[illegible]	+ 17 49		3.57	
[illegible]	[illegible]	5 1[illegible]	1	3.5[illegible]	+ 21 49		3.[illegible]	
[illegible]	6.5	5 2[illegible]	1	2.7[illegible]1	− 12 2		3.4[illegible]	
[illegible]		5 21 5		7.9[illegible]	+ 74 56 32.2	1	3.[illegible]	
S.P. . .					31.0	3	3.[illegible]	
[illegible]	7.5	5 22 5[illegible]	1	6.751	+ 70 16		3.[illegible]	
[illegible]	[illegible]	5 22 5[illegible]	2	2.3[illegible]	− 29 27		3.22	
[illegible]	[illegible] 4	5 2[illegible] 4.7[illegible]	2	2.3[illegible]	29 27		3.22	
[illegible]	[illegible]	5 24 42.[illegible]	2	2.3[illegible]	2[illegible] 31		3.07	
[illegible]		5 24 [illegible]	1	3.0[illegible]	0 25		3.0[illegible]	
[illegible]		5 24 [illegible]	1	3.0[illegible]	0 23		3.0[illegible]	
[illegible]	7.7	5 25 [illegible]	1	2.3[illegible]	2[illegible] 26		3.0[illegible]	
[illegible]		5 26 [illegible] 9	4	2.644	− 17 56		2.9[illegible]	
[illegible]	[illegible]	5 2[illegible] 42	1	3.1[illegible]	+ 5 6		2.[illegible]	
[illegible]	[illegible]	5 2[illegible]	2	2.441	− 25 20		2.[illegible]	
[illegible]	[illegible]	5 2[illegible]	1	3.1[illegible]	+ 5 6		[illegible]	
[illegible]		5 2[illegible]	13	3.042	− 1 17 30.1	2	[illegible]	
[illegible]	[illegible]	5 2[illegible]	2	6.4[illegible]	+ 68 4[illegible]			
[illegible]		5 2[illegible]	1	3.5[illegible]	33 30			
[illegible]	4.1	5 2[illegible]	1	3.180	+ 5 3			
[illegible]		5 2[illegible] 25.[illegible]	1	3.041	1 [illegible]			
[illegible]	6.[illegible]	5 2[illegible]	1	2.380	37 16			
[illegible]	6.7	5 30 22 [illegible]	2	6.4[illegible]	+ 68 4[illegible]			
[illegible]	6.[illegible]	5 3[illegible] 7.52	2	3.04[illegible]	1 1[illegible]			
[illegible]	6.5	5 3[illegible]	1	2.30[illegible]	2[illegible] 5[illegible]			
[illegible]	7.[illegible]	5 32 1[illegible].32	2	+ 2.3[illegible]	3[illegible] [illegible]			

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Procession.	Declinations, 1860.0.	No. of obs.	Procession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
581	Anonymous	7.3	5 32 23.48	2	+ 2.336	— 29 2		+ 2.42	
582	Anonymous		5 32 47		3.588	+ 21 14 53.3	1	2.38	
583	α Columbæ		5 34 34.85	3	2.171	— 34 9		2.22	
584	Anonymous	8.2	5 35 21.27	2	2.437	25 33		2.15	
585	O. Arg. S. 4213 . . .	6.9	5 35 28.77	1	2.310	29 48		2.14	
586	Lacaille 1946	7.5	5 35 40.41	1	2.411	— 26 24		2.13	
587	O. Arg. N. 6159 . . .	7.1	5 35 56.76	3	6.986	+ 71 14		2.10	
588	O. Arg. S. 4237 . . .	7.8	5 36 47.89	4	2.644	— 17 51		2.03	
589	O. Arg. S. 4263 . . .	7.7	5 38 39.60	3	2.566	20 46		1.86	
590	Anonymous	8.0	5 38 43.84	2	2.282	30 41		1.86	
591	O. Arg. S. 4294 . . .	7.3	5 39 57.57	2	2.377	27 33		1.75	
592	Lacaille 1977	6.7	5 39 58.20	2	2.249	— 31 43		1.75	
593	Anonymous	9.6	5 41 22.10	2	3.714	+ 25 46		1.63	
594	Lacaille 1990	6.5	5 41 36.46	3	2.343	— 28 41		1.61	
595	O. Arg. N. 6250 . . .	9.0	5 42 19.70	1	7.065	+ 71 32		1.54	
596	(* 94) W.	9.2	5 43 41.84	2	3.714	+ 25 43		1.42	
597	O. Arg. S. 4355 . . .	7.9	5 43 58.50	4	2.410	— 26 24		1.40	
598	B. A. C. 1860	6.6	5 44 2.69	1	2.505	23 1		1.40	
599	O. Arg. S. 4395 . . .	6.6	5 46 26.46	2	2.422	25 59		1.18	
600	Lacaille 2033	6.5	5 46 34.00	4	2.318	— 29 28		1.18	
601	α Orionis		5 47 35.60	21	3.564	+ 7 22 40.8	7	1.08	
602	Anonymous	9.0	5 49 9.36	1	2.334	— 28 56		0.96	
603	O. Arg. N. 6362 . . .	7.8	5 49 36.02	1	7.334	+ 72 36		0.91	
604	O. Arg. S. 4453 . . .	7.5	5 50 7.92	4	2.333	— 28 58		0.86	
605	Anonymous	7.2	5 50 14.10	2	2.303	29 55		0.85	
606	Anonymous	7.7	5 50 15.77	1	2.302	— 29 58		0.85	
607	O. Arg. N. 6390 . . .	8.9	5 51 25.47	2	7.260	+ 72 18		0.75	
608	O. Arg. S. 4474 . . .	7.7	5 51 31.46	2	2.338	— 28 47		0.74	
609	O. Arg. S. 4481 . . .	8.3	5 51 46.32	2	2.335	28 54		0.72	
610	O. Arg. S. 4499 . . .	7.4	5 52 48.71	3	2.327	29 8		0.63	
611	Lacaille 2085	7.0	5 52 50.65	1	2.154	34 29		0.63	
612	Lacaille 2090	7.3	5 53 54.38	1	2.154	34 22		0.53	
613	O. Arg. S. 4527 . . .	7.5	5 54 37.20	5	2.335	29 13		0.47	
614	O. Arg. S. 4534 . . .	7.8	5 54 57.39	5	2.361	— 27 54		0.44	
615	χ^3 Orionis		5 55 10.06	1	3.550	+ 19 41		0.42	
616	Anonymous	9.5	5 56 30.23	1	7.604	+ 73 33		0.31	
617	B. A. C. 1946	5.7	5 57 37.12	1	2.411	— 26 17		0.21	
618	(* 116) W.	9.1	5 57 45.46	3	7.610	+ 73 35		0.19	
619	Anonymous	8.8	5 59 8.45	4	2.344	— 28 35		0.07	
620	Lacaille 2122	7.7	5 59 10		2.360	28 3 12.4	1	0.07	
621	Anonymous	7.8	5 59 10.99	4	2.344	— 28 35		0.07	
622	ν Orionis		5 59 34.73	7	3.425	+ 14 46 52.8	1	+ 0.04	
623	Lacaille 2126	6.8	5 59 59.33	1	2.472	— 24 10		0.00	
624	Anonymous	8.0	6 0 46		2.490	23 31 41.4	1	— 0.07	
625	O. Arg. S. 4680 . . .	7.8	6 2 6.13	2	2.281	— 30 36		0.18	
626	Lalande 11684	7.5	6 2 11.54	1	3.725	+ 26 2		0.19	
627	π Columbæ	6.5	6 2 17		1.542	— 42 16 57.8	1	0.20	
628	Lalande 11714	8.5	6 3 3.23	1	3.725	+ 26 1		0.27	
629	Lacaille 2163	6.8	6 4 12.14	2	2.268	— 31 1		0.37	
630	B. A. C. 1995	6.2	6 5 0.36	1	2.387	27 7 31.1	1	0.44	
631	B. A. C. 1997	6.9	6 5 36.58	1	2.407	26 27		0.49	
632	Lacaille 2177	7.4	6 5 53.21	1	2.390	— 27 1 39.6	1	0.51	
633	η Geminorum		6 6 25.56	2	3.627	+ 22 32 37.9	1	0.56	
634	Lacaille 2180	6.5	6 6 29.02	1	2.374	— 26 0		0.57	
635	Weisse (2) 169	7.5	6 7 26.93	1	4.232	+ 40 56		0.65	
636	Lacaille 2189	6.7	6 7 30.18	2	2.348	— 28 25 45.9	1	0.66	
637	Lacaille 2190	7.2	6 7 58.22	1	2.482	— 23 49 45.6	2	0.70	
638	O. Arg. N. 6682 . . .	7.7	6 8 10.26	1	7.578	+ 73 30		0.71	
639	O. Arg. S. 4851 . . .	8.5	6 8 59.22	1	2.344	— 28 36		0.79	
640	O. Arg. S. 4861 . . .	8.0	6 9 26.65	1	2.341	28 42		0.83	
641	Anonymous	9.0	6 9 30.49	1	2.357	28 10		0.83	
642	Lacaille 2208	7.3	6 11 25.80	1	2.478	24 1 28.8	2	1.00	
643	Anonymous	9.5	6 12 46.37	1	2.334	28 57		1.12	
644	O. Arg. S. 4961 . . .	7.3	6 13 43.18	1	2.334	— 28 57		1.20	
645	μ Geminorum		6 14 29.48	2	+ 3.627	+ 22 34 54.5	1	— 1.27	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
646	Lacaille 2226	8.0	6 14 44		− 2.491	− 23 34 30.7	1	− 1.29	
647	8 Monoceratis	5.5	6 16 21.08	1	3.181	+ 4 39 38.5	1	1.43	
648	B. A. C. 2060	7.5	6 16 21.36	1	3.181	+ 4 40		1.43	
649	O. Arg. S. 5082	5.8	6 19 17.48	1	2.342	− 28 42		1.69	
650	11 Monoceratis, (1st *)		6 22 1.91	1	2.909	6 56 51.6	1	1.92	
651	11 Monoceratis, (2d *)	5.7	6 22 2.20	1	2.909	− 6 56 45.9	1	1.92	
652	B. A. C. 2095		6 22 20		10.395	+ 79 42 14.5	2	1.95	
	S. P.					14.4	3	1.95	
653	B. A. C. 2127	6.9	6 24 13.49	1	2.375	− 27 40		2.11	
654	Anonymous	9.0	6 25 13.64	1	2.307	29 56		2.20	
655	O. Arg. S. 5251	7.4	6 26 30.22	2	2.330	− 29 12		2.31	
656	Lalande 12614	7.1	6 27 46.64	2	3.467	+ 16 35		2.42	
657	O. Arg. S. 5289	7.0	6 28 1.13	1	2.419	− 26 13		2.44	
658	γ Geminorum		6 29 37.43	15	3.465	+ 16 30 54.3	3	2.58	
659	O. Arg. S. 5343	8.5	6 30 15		2.495	− 24 0 23.4	1	2.64	
660	Lacaille 2355	7.5	6 30 40.92	1	2.346	28 42		2.68	
661	Lacaille 2366	8.2	6 31 34.93	2	2.350	28 34		2.75	
662	O. Arg. S. 5410	8.0	6 32 26.25	1	2.378	27 40		2.83	
663	O. Arg. S. 5415	7.6	6 32 33.19	2	2.498	23 27		2.84	
664	Anonymous	8.5	6 33 15.76	1	2.379	− 27 38		2.90	
665	51 Cephei		6 33 38.97	15	30.591	+ 87 14 55.6	2	2.93	
	S. P.					52.8	1	2.93	
666	O. Arg. S. 5450	7.1	6 33 46.81	2	2.496	− 23 33		2.95	
667	Lacaille 2388	6.1	6 34 20.95	3	2.298	− 30 20		2.99	
668	ε Geminorum		6 35 19.05	1	3.696	+ 25 16		3.08	
669	O. Arg. S. 5519	7.5	6 36 4.25	1	2.378	− 27 44		3.14	
670	Anonymous	7.7	6 36 36.38	1	2.503	23 19		3.19	
671	Anonymous	7.7	6 37 2.26	2	2.263	31 31		3.22	
672	O. Arg. S. 5574	7.7	6 37 38.73	1	2.339	29 5		3.28	
673	α Canis Majoris		6 38 58.65	23	2.681	16 31 42.3	21	3.39	
674	O. Arg. S. 5615	7.2	6 39 16.70	2	2.394	27 12		3.42	
675	O. Arg. S. 5654	8.2	6 40 28.52	1	2.352	28 39		3.53	
676	O. Arg. S. 5665	8.2	6 40 50.13	1	2.330	29 24		3.55	
677	O. Arg. S. 5704	8.5	6 42 19.78	3	2.421	26 22		3.68	
678	O. Arg. S. 5732	7.0	6 43 24.97	1	2.327	29 34		3.77	
679	Lacaille 2461	7.5	6 43 49.09	1	2.488	23 59 7.1	1	3.81	
680	Lacaille 2462	7.0	6 43 54		2.490	23 55 2.5	1	3.82	
681	O. Arg. S. 5745	7.0	6 43 56.21	3	2.360	28 28		3.82	
682	Anonymous		6 44 18.17	1	2.241	32 22		3.85	
683	B. A. C. 2244	7.6	6 44 30.18	1	2.398	27 10		3.87	
684	χ Canis Majoris		6 44 36.63	1	2.241	32 20		3.88	
685	Lacaille 2473	6.9	6 44 54.79	1	2.444	25 37		3.90	
686	B. A. C. 2251	6.8	6 45 5.79	1	2.267	31 33		3.92	
687	Anonymous	8.0	6 45 8.84	1	2.267	31 33		3.93	
688	Anonymous	8.2	6 45 28.41	1	2.359	28 32		3.95	
689	O. Arg. S. 5790	7.9	6 45 34.62	1	2.401	27 6		3.96	
690	Anonymous	7.7	6 46 46.36	2	2.309	30 15		4.06	
691	B. A. C. 2266	6.7	6 47 59.70	2	2.367	28 21		4.17	
692	Lacaille 2519	7.4	6 49 2.73	5	2.268	31 36		4.26	
693	O. Arg. S. 5906	7.3	6 49 45.30	2	2.353	28 52		4.32	
694	Lacaille 2528	7.2	6 50 37.12	4	2.269	31 36		4.39	
695	O. Arg. S. 2961	7.0	6 52 6.85	1	2.398	27 21		4.52	
696	Lacaille 2544	7.5	6 52 45.62	1	2.501	23 41		4.57	
697	Lacaille 2549	7.0	6 52 45.87	3	2.303	30 34		4.57	
698	ε Canis Majoris		6 53 7.53	3	2.357	28 47 1.7	2	4.61	
699	Lacaille 2553		6 53 22.19	1	2.296	30 49		4.63	
700	B. A. C. 2298	9.0	6 53 32		2.358	28 46 21.7	1	4.64	
701	O. Arg. S. 6004		6 53 34.87	1	2.358	28 46		4.65	
702	Lacaille 2566	6.8	6 54 48.43	3	2.292	30 58		4.75	
703	Anonymous	8.1	6 54 52.73	3	2.296	− 30 52		4.75	
704	Weisse (2) 1675	8.5	6 55 47.27	1	3.554	+ 20 48		4.83	
705	Lacaille 2579	7.1	6 55 47.42	1	2.310	− 30 29		4.83	
706	ζ Geminorum	4.0	6 55 48.25	2	3.564	+ 20 46		4.83	
707	44 Geminorum		6 56 52.72	1	3.618	+ 22 50 38.5	1	4.92	
708	γ Canis Majoris		6 57 25.43	4	2.714	− 15 25 44.7	1	4.97	
709	Lacaille 2610	6.5	7 0 36.53	1	2.313	30 27		5.24	
710	O. Arg. S. 6232	7.2	7 1 19.60	1	− 2.431	− 26 27		− 5.30	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
711	B. A. C. 2326	5.2	7 1 24		+ 13.074	+ 82 40 5.5	3	− 5.31	
	S. P.					5.0		5.31	
712	τ Geminorum		7 2 13.52	1	3.830	+ 30 28		5.38	
713	Anonymous	8.4	7 2 38.43	1	2.293	− 31 11		5.41	
714	Lacaille 2637	7.7	7 2 49.51	1	2.293	− 31 11		5.43	
715	O. Arg. N. 7623	7.0	7 3 53.16	1	9.394	+ 78 30		5.52	
716	Lacaille 2643	7.8	7 4 28.13	1	2.374	− 28 31		5.57	
717	B. A. C. 2371	6.9	7 6 40.42	1	2.315	− 30 35		5.75	
718	O. Arg. N. 7681	8.8	7 7 9.86	1	9.742	+ 79 9		5.79	
719	Anonymous	7.5	7 7 27.11	1	2.416	− 27 8		5.82	
720	O. Arg. S. 6431	6.3	7 7 58.00	1	2.417	27 7		5.86	
721	B. A. C. 2394	7.4	7 9 12.37	1	2.322	30 25		5.96	
722	O. Arg. S. 6489		7 9 44.37	1	2.390	28 7		6.01	
723	Lacaille 2684	7.5	7 9 53		2.518	23 29 50.5	1	6.02	
724	B. A. C. 2399	6.7	7 9 56.05	1	2.322	− 30 27		6.02	
725	λ Geminorum		7 10 2.69	1	3.457	+ 16 47		6.03	
726	B. A. C. 2320, S. P.		7 10 8.49	1	77.898	89 0		6.04	
727	O. Arg. N. 7755	7.6	7 11 9.22	1	9.601	78 58		6.13	
728	δ Geminorum		7 11 45.56	2	3.592	+ 22 14 12.9	1	6.18	
729	Anonymous	8.1	7 12 47.98	2	2.350	− 29 37		6.26	
730	Anonymous	8.3	7 12 48.24	1	2.321	30 36		6.26	
731	B. A. C. 2428	7.0	7 14 1.08	1	2.234	33 28		6.36	
732	Lacaille 2741	6.6	7 14 50.94	1	2.442	26 26		6.43	
733	Lacaille 2753	7.0	7 15 31.81	1	2.275	32 12		6.49	
734	Weisse 461	8.0	7 15 33		2.737	14 49 22.0	1	6.49	
735	B. A. C. 2443	7.0	7 16 50.06	1	2.273	32 20		6.60	
736	Lacaille 2762	7.7	7 16 56		2.463	25 44 42.9	1	6.61	
737	Anonymous	8.5	7 16 58.35	1	2.273	32 20		6.61	
738	Anonymous	8.1	7 17 14.93	3	2.314	31 1		6.63	
739	Anonymous	7.5	7 17 15		2.734	− 14 56 44.2	1	6.63	
740	Anonymous	9.0	7 17 23.51	2	3.304	+ 10 25		6.64	
741	O. Arg. S. 6734	5.9	7 17 50.73	2	2.414	− 27 34		6.68	
742	Anonymous	7.0	7 18 10.68	1	2.312	31 3		6.71	
743	O. Arg. S. 6748	6.8	7 18 20.32	1	2.374	29 1		6.72	
744	η Canis Majoris	2.5	7 18 33.52	1	2.373	29 2		6.74	
745	Anonymous	7.5	7 19 0		2.736	14 57 51.5	1	6.78	
746	Lacaille 2792	7.0	7 19 35		2.487	24 56 37.0	1	6.83	
747	Anonymous	8.5	7 19 50.98	1	2.337	30 19		6.85	
748	Anonymous	9.0	7 19 56		2.742	14 41 54.8	1	6.85	
749	O. Arg. S. 6810	7.4	7 20 22.90	2	2.446	− 26 31		6.89	
750	6 Canis Minoris		7 21 59.81	1	3.345	+ 12 18		7.02	
751	O. Arg. S. 6858	7.1	7 22 12.97	2	2.403	− 28 5		7.04	
752	Lacaille 2813	6.9	7 22 19.28	3	2.445	26 35		7.05	
753	Anonymous	6.0	7 22 58		2.744	− 14 42 12.2	1	7.10	
754	Lalande 14620	5.5	7 23 43.99	1	3.463	+ 17 23		7.17	
755	Anonymous	7.8	7 23 45.93	1	2.608	− 20 24		7.17	
756	O. Arg. S. 6907	8.5	7 23 46.87	1	2.346	30 21		7.17	
757	Anonymous	8.0	7 24 11		2.494	24 51 25.9	1	7.20	
758	O. Arg. S. 6941	8.3	7 24 50.44	2	2.409	28 34		7.26	
759	O. Arg. S. 6946	8.6	7 24 54.45	2	2.393	28 33		7.26	
760	O. Arg. S. 6948	8.0	7 25 8.10	1	2.414	27 48		7.28	
761	O. Arg. S. 6949	8.3	7 25 8.32	1	2.414	− 27 49		7.28	
762	68 Geminorum		7 25 36.85	2	2.432	+ 16 8		7.32	
763	a^1 Geminorum		7 25 39.21	5	3.856	32 11 26.5	1	7.32	
764	a^2 Geminorum		7 25 39.74	12	3.856	+ 32 11 29.5	2	7.32	
765	Lacaille 2852	7.2	7 28 8.10	1	2.264	− 33 6		7.55	
766	Lacaille 2859	6.5	7 28 56.34	1	2.263	33 9		7.59	
767	O. Arg. S. 7063	7.7	7 29 13.99	2	2.473	29 6		7.61	
768	Anonymous	8.7	7 30 2.83	2	2.369	29 40		7.68	
769	Anonymous	8.6	7 30 13.48	2	2.367	29 44		7.69	
770	Lacaille 2870		7 30 42.44	1	2.496	25 1		7.73	
771	Anonymous	8.0	7 31 7.16	1	2.332	30 59		7.76	
772	O. Arg. S. 7131	7.3	7 31 23.10	1	2.442	27 6		7.79	
773	Anonymous	8.3	7 31 51.32	1	2.367	− 29 48		7.82	
774	α Canis Minoris		7 31 58.34	23	3.192	+ 5 34 46.4	5	7.84	
775	m Puppis	5.0	7 32 24		+ 2.498	− 25 2 57.8	1	− 7.87	

Number.	Name.		Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
776		B. A. C. 2526	6.0	7 32 40.61	1	+ 3.191	+ 5 33		— 7.89	
777		Anonymous	9.0	7 33 19.09	1	2.367	— 29 52		7.94	
778		Anonymous	7.5	7 33 33		2.528	23 54 40.1	1	7.96	
779		Anonymous	7.8	7 34 6		2.230	34 29 37.6	1	8.00	
780		O. Arg. S. 7224	7.3	7 34 32.76	3	2.369	29 51		8.04	
781		Lalande 5006		7 34 53		2.528	33 57 4.5	1	8.07	
782		O. Arg. S. 7239	7.0	7 35 3.03	3	2.432	27 37		8.08	
783		O. Arg. S. 7286	7.0	7 36 34.67	3	2.372	29 51		8.20	
784		O. Arg. S. 7289	9.1	7 36 38.81	1	2.434	— 27 36		8.21	
785	β	Geminorum		7 36 44.69	18	3.731	+ 28 21 39.3	1	8.21	
786		Lacaille 2929	8.0	7 37 46		2.500	— 25 10 20.3	1	8.22	
787		Lacaille 2941	7.0	7 38 43.21	1	2.332	31 20		8.37	
788		O. Arg. S. 7326	7.7	7 39 35.33	3	2.458	26 51		8.44	
789		Lacaille 2952	7.3	7 39 57.09	1	2.535	23 54		8.47	
790		Anonymous	7.6	7 40 3.17	1	2.535	23 54		8.48	
791		Anonymous	6.0	7 40 5.98	1	2.538	23 46		8.48	
792		B. A. C. 2581	6 5	7 40 21.72	1	2.259	33 54		8.50	
793		Anonymous	9.3	7 40 32.01	1	2.448	27 16		8.52	
794		O. Arg. S. 7444		7 42 3.62	1	2.370	30 12		8.64	
795		O. Arg. S. 7443	9.5	7 42 4.18	1	2.537	23 55		8.64	
796		O. Arg. S. 7445	9.0	7 42 4.69	1	2.450	— 27 17		8.64	
797		B. A. C. 2590, S. P.		7 42 35		9.806	+ 79 51 8.3	1	8.68	
798		O. Arg. S. 7464	8.1	7 42 48.36	3	2.466	— 26 42		8.70	
799		O. Arg. S. 7465	7.9	7 42 50.09	4	2.468	26 39		8.70	
800		O. Arg. S. 7470		7 43 5.37	1	2.365	30 25		8.72	
801		O. Arg. S. 7473	7.8	7 43 11.91	1	2.379	— 29 55		8.73	
802		B. A C. 2606	6.5	7 44 24		4.303	+ 47 44 38.9	2	8.82	
803	ϕ	Geminorum		7 44 55.45	3	3.686	+ 27 7		8.86	
804		Lacaille 3012	6.0	7 45 5.30	1	2.534	— 24 9		8.88	
805		Anonymous	9.0	7 46 32.08	2	2.489	26 4		8.99	
806		Anonymous	7.6	7 47 16.29	4	2.490	26 4		9.05	
807		Lacaille 3041	7.2	7 48 0.31	1	2.494	25 54		9.11	
808		Anonymous	7.2	7 48 9.91	4	2.492	25 59		9.12	
809		Anonymous	7.3	7 48 21.24	1	2.496	— 25 49		9.13	
810		O. Arg. N. 8445		7 48 23		4.356	+ 47 10 55.3	1	9.13	
811		O. Arg. S. 7636	6.5	7 48 43.09	1	2.447	— 27 44		9.16	
812		Anonymous	7.5	7 49 27.24	1	2.492	— 26 4		9.22	
813		O. Arg. N. 8459	7.2	7 49 36.19	1	4.344	+ 46 59 43.5	2	9.23	
814		Anonymous	7.0	7 49 42.12	2	2.372	— 30 32		9.24	
815		Anonymous	7.7	7 51 47.98	2	2.313	32 44		9.40	
816		Lacaille 3086		7 52 13		2.009	42 1 1.1	1	9.43	
817		O. Arg. S. 7758	6.6	7 52 53.01	2	2.467	27 12		9.48	
818		Anonymous	7.7	7 52 58		2.178	— 37 12 13.4	2	9.49	
819	5	Cancri		7 53 31.51	1	3.428	+ 16 50		9.53	
820		Anonymous	7.3	7 53 47.75	2	2.447	— 28 2		9.55	
821	6	Cancri		7 54 54.88	5	3.700	+ 28 11 0.9	1	9.64	
822		O. Arg. S. 7865	7.5	7 56 25		2.523	— 25 40 38.3	1	9.75	
823		O. Arg. S. 7882		7 57 10		2.548	24 12 46.1	1	9.81	
824		Anonymous	7.5	7 57 49		2.513	— 25 37 53.1	1	9.86	
825		Lacaille 3127	6.7	7 58 39.61	1	2.523	+ 25 18 15.8	1	9.93	
826		O. Arg. S. 7951	8.7	7 59 22.11	1	2.415	— 29 33		9.98	
827	12	Cancri		8 0 52.92	1	3.361	+ 14 3		10.09	
828	ρ	Argus		8 1 34.94	2	2.568	— 23 49 9.9	2	10.15	
829		O. Arg. S. 8072	8.3	8 2 42.32	1	2.561	23 58 50.4	1	10.23	
830		Lacaille 3168	6.2	8 3 28		2.199	37 16 27.2	1	10.29	
831		O. Arg. S. 8108	6.4	8 3 28.79	1	2.412	— 29 55		10.29	
832	ζ	Cancri, (1st *)		8 4 10.74	2	3.446	+ 18 4		10.34	
833	ζ	Cancri, (2d *)		8 4 11.12	2	3.446	+ 18 4		10.34	
834		O. Arg. S. 8165	8.0	8 4 45.38	1	2.417	— 29 49		10.39	
835		O. Arg. S. 8169	7.0	8 5 5.16	1	2.419	29 44		10.41	
836		O. Arg. S. 8199		8 6 15.74	1	2.420	29 48		10.50	
837		Lacaille 3201	6.0	8 6 55		2.071	41 22 17.8	1	10.55	
838		Anonymous	8.0	8 8 42.00	1	2.496	26 59		10.68	
839		O. Arg. S. 8280	7.0	8 9 23.40	1	2.408	30 26		10.73	
840		O. Arg. S. 8291	8.5	8 10 6.22	1	+ 2.551	— 24 48 25.3	1	— 10.78	

Number.	Name		Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
841		Lacaille 3229	7.6	8 10 19.03	1	+ 2.428	— 29 45		— 10.80	
842		O. Arg. S. 8338 . . .		8 11 45.28	1	2.550	24 56		10.90	
843		O. Arg. S. 8343 . . .		8 11 48.36	1	2.552	24 53		10.91	
844		O. Arg. S. 8345 . . .		8 11 57.40	1	2.551	24 56		10.92	
845		Lacaille 3248	6.7	8 11 58.02	1	2.359	— 32 26		10.92	
846	λ	Cancri		8 12 16		3.581	+ 24 27 36.0	1	10.94	
847		Lacaille 3257	5.2	8 12 56.71	2	2.289	— 35 0		10.99	
848		Anonymous	7.6	8 13 51.00	1	2.512	26 39		11.06	
849		Lacaille 3262	6.0	8 14 2		2.316	34 9 9.5	1	11.07	
850		Lacaille 3267	7.1	8 14 27.26	2	2.411	30 42		11.10	
851		Lacaille 3279	7.1	8 16 19.45	2	2.478	28 11		11.24	
852		Anonymous	6.6	8 16 49.54	2	2.468	29 13		11.28	
853		B. A. C. 2811	6.5	8 16 53		2.535	25 54 5.4	1	11.28	
854		Lacaille 3290		8 17 9.08	1	2.388	31 10		11.30	
855		Lacaille 3299	6.4	8 18 0.66	1	2.438	— 29 55		11.36	
856		Dorpat 1224, (1st *) . .	7.3	8 18 19.83	1	3.585	+ 24 59		11.38	
857		Dorpat 1224, (2d *) . .	7.8	8 18 20.14	1	3.585	24 59		11.38	
858	o	Ursæ Majoris		8 18 36		5.073	61 10 54.0	1	11.40	
859		Weisse (2) 458	7.7	8 20 10.27	1	3.582	+ 25 0		11.52	
860		Anonymous	6.8	8 20 24.01	3	2.522	— 26 42		11.54	
861		Lacaille 3316		8 20 25.50	1	2.394	— 31 47		11.54	
862	29	Cancri		8 20 48.14	1	3.358	+ 14 40		11.56	
863		B. A. C. 2838		8 20 56		2.099	— 41 41 50.6	1	11.57	
864		Anonymous	6.8	8 21 13.39	1	2.403	31 32		11.59	
865		Anonymous	7.0	8 21 34		2.412	31 12 45.8	1	11.61	
866		B. A. C. 2843		8 21 38.87	1	2.411	31 13		11.62	
867		Anonymous	7.5	8 21 56		2.322	34 33 18.1	1	11.64	
868		Lacaille 3331	6.6	8 22 1.01	1	2.405	31 31		11.65	
869		O. Arg. S. 8581 . . .	7.4	8 22 20.49	2	2.516	27 6		11.67	
870		Anonymous	9.0	8 22 42.89	1	2.490	28 12		11.70	
871		Anonymous	7.0	8 23 16.26	1	2.491	28 11		11.73	
872		Lacaille 3341	6.8	8 23 22.17	1	2.491	28 13		11.74	
873		O. Arg. S. 8620 . . .	7.5	8 24 8.59	1	2.452	— 29 51		11.80	
874	η	Cancri		8 24 36.48	4	3.484	+ 20 55		11.83	
875		Lacaille 3356	5.6	8 24 51.69	1	2.406	— 31 42		11.85	
876		Anonymous	7.5	8 25 23.87		2.419	31 15		11.89	
877		O. Arg. S. 8654 . . .	7.3	8 25 27		2.565	25 12 41.7	1	11.89	
878		Anonymous	7.0	8 26 24.13	1	2.425	31 5		11.96	
879		Anonymous	8.2	8 26 52.64	1	2.407	31 49		11.99	
880		Anonymous	7.6	8 27 17.09	2	2.602	— 23 42		12.02	
881		B. A. C. 2889, (1st *) . .	6.4	8 28 24.24	1	3.205	+ 7 6 22.0	1	12.10	
882		B. A. C. 2889, (2d *) . .	6.9	8 28 24.54	1	3.205	7 6 31.9	1	12.10	
883	c^1	Cancri	6.5	8 29 30.17	2	3.262	+ 10 8		12.17	
884		Anonymous	7.3	8 29 33.57	2	2.438	— 30 47		12.18	
885		B. A. C. 2899		8 29 44		3.453	+ 19 45 9.5	3	12.19	
886		Lalande 16960, (2d *) . .	7.1	8 30 4.45	1	3.209	+ 7 13		12.21	
887		Lacaille 3419	7.4	8 30 35.10	1	2.438	— 30 51		12.25	
888		B. A. C. 2910	7.2	8 31 5.59	1	2.558	25 56		12.28	
889		O. Arg. S. 8776 . . .	7.7	8 31 14.94	1	2.606	— 23 49		12.29	
890		Anonymous		8 32 17		3.452	+ 19 50 29.0	3	12.36	
891		O. Arg. S. 8806 . . .	7.7	8 32 20.80	1	2.559	— 25 57		12.37	
892	b	Mali	4.0	8 34 37.46	1	2.346	34 49		12.53	
893		Anonymous		8 34 37.62	1	2.428	31 40		12.53	
894		O. Arg. S. 8856 . . .	8.0	8 34 40.50	1	2.543	26 53		12.53	
895		O. Arg. S. 8887 . . .	7.5	8 36 26.89	1	2.616	23 43	3	12.65	
896		Lacaille 3474	7.9	8 37 14.08	1	2.498	29 1		12.70	
897		Lacaille 3485	6.5	8 37 29.67	1	2.336	35 27		12.72	
898		Anonymous	8.2	8 37 57.21	1	2.410	32 40		12.75	
899	a	Mali	5.0	8 37 58.10	1	2.410	32 41		12.75	
900		Weisse 986	7.0	8 38 15		3.034	2 5 40.3	1	12.77	
901		Lacaille 3500	7.0	8 39 15.22	1	2.466	— 30 28		12.84	
902	ε	Hydræ		8 39 21.60	4	3.197	+ 6 55 48.0	1	12.85	
903		O. Arg. S. 8946 . . .	9.0	8 39 24.43	1	2.548	— 27 3		12.85	
904		Lacaille 3509	7.5	8 40 9		2.571	26 6 12.5	1	12.90	
905		Lacaille 3511	9.0	8 40 25		+ 2.571	— 26 7 6.9	1	— 12.92	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		s.	
906	Weisse 1050	7.5	8 40 49.20	1	+ 3.179	+ 5 58		— 12.95	
907	O. Arg. S. 8993		8 41 23.28	1	2.547	— 27 15		12.98	
908	Weisse 1077	8.0	8 42 11.55	1	3.179	+ 5 59		13.04	
909	Lacaille 3531	7.0	8 42 12.95	1	2.415	— 32 53		13.04	
910	Anonymous	7.0	8 43 21.62	1	2.297	37 27		13.11	
911	Lacaille 3546	8.0	8 43 40.94	1	2.479	30 24 51.3	1	13.14	
912	Anonymous	7.3	8 43 46.68	2	2.541	27 44		13.14	
913	B. A. C. 3005	6.4	8 44 10.17	1	2.515	28 56		13.17	
914	Lacaille 3552	7.7	8 44 35		2.494	29 53 47.9	1	13.19	
915	Lacaille 3561	8.0	8 44 37		2.190	41 13 21.5	1	13.20	
916	Anonymous		8 44 40.72	1	2.155	42 20		13.20	
917	Lacaille 3564	7.3	8 45 29.05	1	2.597	33 55		13.26	
918	Lacaille 3567	7.3	8 46 0.24	1	2.559	27 7		13.29	
919	Anonymous	7.7	8 46 3.21	1	2.195	41 14		13.29	
920	Anonymous	9.0	8 47 22.59	1	2.480	30 45		13.38	
921	O. Arg S. 9127	7.7	8 48 18.50	2	2.482	30 43		13.44	
922	Lacaille 3582	7.0	8 48 25.51	2	2.461	31 37		13.45	
923	17 Hydræ, (N. *)	7.5	8 48 37.90	2	2.943	7 26 11.7	1	13.46	Noted as having the same right ascension.
924	17 Hydræ, (S. *)	7.5	8 48 37.90	2	2.943	7 26 17.3	1	13.46	
925	Weisse 1274	8.9	8 49 35.93	1	2.944	— 7 25		13.52	
926	ι Ursæ Majoris		8 49 36		4.192	+ 48 35 17.5	3	13.52	
927	Anonymous	7.2	8 49 47.14	2	2.502	— 30 0		13.53	
928	O. Arg. S. 9154	7.9	8 49 47.22	2	2.487	30 39		13.53	
929	O. Arg. S. 9155	7.9	8 49 47.67	2	2.485	30 45		13.53	
930	Anonymous	6.8	8 49 55.25	1	2.309	37 45		13.54	
931	Anonymous		8 50 44		2.505	— 29 59 25.0	2	13.60	
932	α Cancri		8 50 49.66	2	3.288	+ 12 24		13.60	
933	O. Arg. S. 9178	8.2	8 50 58.70	1	2.501	— 30 10		13.61	
934	Lacaille 3607	7.7	8 51 32.89	1	2.567	27 10		13.65	
935	Lacaille 3617	7.2	8 52 59.96	3	2.476	31 26		13.74	
936	Lacaille 3621	6.1	8 53 43.07	3	2.571	27 16		13.79	
937	O. Arg. S. 9243	7.0	8 54 42.41	2	2.650	23 36		13.85	
938	Anonymous	6.7	8 55 4.84	2	2.581	26 57		13.87	
939	B. A. C. 3082		8 55 7.11	1	2.599	26 7		13.87	
940	O. Arg. S. 9258	7.8	8 55 35.80	1	2.625	24 53		13.90	
941	Anonymous	8.0	8 56 4.40	1	2.576	27 17		13.94	
942	O. Arg. S. 9276	7.1	8 56 43.36	3	2.508	30 28 0.6	1	13.98	
943	B. A. C. 3096	6.9	8 57 1.01	3	2.626	— 24 57		14.00	
944	σ^2 Ursæ Majoris		8 58 1		5.397	+ 67 41 56.6	1	14.06	
	S. P.					54.3	3	14.06	
945	O. Arg. S. 9310	7.8	8 58 30.79	1	2.597	— 26 32		14.09	
946	O. Arg. S. 9321	7.5	8 58 52.80	1	2.656	— 23 38		14.11	
947	κ Cancri		9 0 9.67	13	3.260	+ 11 14		14.19	
948	O. Arg. S. 9344	7.2	9 0 18.51	1	2.659	— 23 36		14.20	
949	Anonymous	8.2	9 1 27.35	1	2.500	31 20		14.27	
950	Anonymous		9 2 0.48	2	2.498	— 31 30		14.31	
951	Weisse (2) 10		9 2 10.07	1	3.549	+ 26 58		14.32	
952	Anonymous	9.0	9 2 25		2.668	— 23 19 45.4	1	14.33	
953	Lacaille 3700	6.4	9 3 37.12	4	2.551	29 15		14.40	
954	ε Mali	6.0	9 4 0.55	2	2.540	29.48		14.43	
955	Anonymous	7.1	9 5 48.16	3	2.587	27 46		14.53	
956	B. A. C. 3143	5.8	9 6 13.80	2	2.336	38 41 15.9	1	14.56	
957	Lacaille 3718	6.4	9 6 21.17	2	2.576	28 23		14.57	
958	Lacaille 3725	7.2	9 7 1.46	2	2.532	30 29		14.61	
959	O. Arg. S. 9481	5.7	9 7 22.10	2	2.563	— 29 5		14.63	
960	π^2 Cancri		9 7 29.82	1	3.326	+ 15 31		14.64	
961	O. Arg. S. 9488	7.2	9 7 39.29	3	2.592	27 43		14.65	
962	O. Arg. S. 9489	7.1	9 7 43.90	3	2.596	27 31		14.65	
963	O. Arg. S. 9496	7.2	9 8 4.40	3	2.597	27 32		14.67	
964	Lacaille 3739		9 9 5		2.553	29 47 25.2	1	14.73	
965	O. Arg. S. 9509	7.0	9 9 6.18	2	2.553	29 47		14.73	
966	Lacaille 3750	6.5	9 9 45.52	1	2.490	32 44		14.77	
967	Anonymous	6.8	9 9 49.49	1	2.598	27 41		14.78	
968	O. Arg. S. 9522	7.4	9 9 51.62	3	2.619	— 26 37		14.78	
969	83 Cancri		9 11 9.75	5	3.369	+ 18 18		14.86	
970	Anonymous	8.4	9 11 43.55	2	+ 2.585	— 28 33		— 14.89	

Number.		Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		′	
971		Anonymous	7.0	9 12 4.40	2	+ 2.444	− 35 6		− 14.91	
972		Anonymous	7.0	9 12 55.70	1	2.496	33 31		14.96	
973		Lacaille 3780	6.0	9 13 0.76	1	2.365	38 28		14.96	
974		O. Arg. S. 9600	8.3	9 13 53.50	3	2.621	27 0		15.01	
975		B. A. C. 3190	6.0	9 13 59.69	1	2.485	33 31		15.02	
976		Anonymous	7.1	9 14 23.08	3	2.590	28 39		15.04	
977		O. Arg. S. 9615	7.3	9 14 39.15	2	2.590	28 38		15.06	
978		Anonymous	7.7	9 14 49.18	1	2.588	28 45		15.07	
979		Anonymous	7.5	9 15 22		2.560	30 12 45.3	1	15.10	
980		Anonymous	6.8	9 15 25.82	1	2.477	34 40 50.3	1	15.10	
981		Lacaille 3796	7.7	9 15 27.46	1	2.560	30 13		15.11	
982		Lacaille 3802	7.9	9 15 47.37	2	2.569	− 29 55 39.9	1	15.18	
983	1	(Hev.) Draconis		9 16 48		9.241	+ 81 56 22.4	7	15.18	
984		Anonymous	6.9	9 17 5.26	2	2.461	− 34 56		15.20	
985		B. A. C. 3207	4.7	9 17 8.83	1	2.604	28 14		15.20	
986		O. Arg. S. 9661	8.6	9 17 13.21	2	2.571	29 53		15.20	
987		Anonymous	8.3	9 17 15.27	1	2.599	28 29		15.21	
988		Anonymous	8.5	9 17 25.86	1	2.600	28 28		15.22	
989		Lacaille 3810	6.5	9 18 3.18	1	2.473	34 38		15.25	
990		Anonymous	8.1	9 18 28.02	2	2.602	28 28		15.28	
991		O. Arg. S. 9692		9 19 13.62	1	2.606	28 23		15.32	
992		Anonymous	7.6	9 20 32.28	4	2.582	29 47		15.39	
993	α	Hydræ		9 20 42.44	10	2.951	8 3 12.8	2	15.40	
994		Anonymous	7.5	9 21 20.41	1	2.612	27 47		15.44	
995		B. A. C. 3235		9 21 49.72	1	2.476	− 34 24		15.47	
996	d	Ursæ Majoris		9 22 2		5.466	+ 70 26 31.8	1	15.48	
997		Lacaille 3848		9 22 25.12	1	2.493	− 34 17		15.50	
998	ε	Antliæ	4.1	9 23 28.18	3	2.473	35 21		15.56	
999		Lacaille 3864	6.9	9 23 49.56	3	2.631	27 37		15.58	
1000		Anonymous	8.5	9 24 5.70	1	2.633	27 35		15.59	
1001		O. Arg. S. 9789	8.5	9 24 6		2.596	− 29 31 55.7	1	15.59	
1002	ξ	Leonis		9 24 23.80	2	3.249	+ 11 55		15.61	
1003		Anonymous	7.3	9 25 22.47	1	2.480	− 35 19		15.66	
1004		Lacaille 3889	6.0	9 25 42.65	2	2.486	35 5		15.68	
1005		Anonymous	7.7	9 26 1		2.622	28 25 41.2	1	15.70	
1006		Lacaille 3905	6.5	9 27 38.52	3	2.427	− 38 1		15.78	
1007	10	Leonis		9 29 49.07	1	3.179	+ 7 28		15.90	
1008		O. Arg. S. 9903	7.9	9 29 51.88	4	2.771	− 20 16		15.90	
1009		Lacaille 3923	6.7	9 30 15.33	1	2.709	24 5		15.92	
1010		O. Arg. S. 9931	7.0	9 31 12.60	2	2.599	− 30 20 33.2	2	15.97	
1011		Anonymous	8.3	9 31 39.64	1	3.449	+ 25 4		16.00	
1012		Lacaille 3945	7.2	9 31 41.39	3	2.606	− 30 2		16.00	
1013		Anonymous	8.4	9 32 3.10	2	2.774	− 20 22		16.02	
1014	ο	Leonis		9 33 40.50	2	3.220	+ 10 32		16.11	
1015		Anonymous	8.0	9 34 46.98	2	2.509	− 35 24		16.16	
1016		Anonymous		9 35 19.21	3	2.511	35 24		16.19	
1017		Lacaille 3975	6.5	9 35 25.29	1	2.564	32 46		16.20	
1018		Lacaille 3976	6.8	9 35 44.85	1	2.624	29 40		16.21	
1019		Anonymous	7.5	9 35 52.66	1	2.460	37 53		16.22	
1020		Lacaille 3984	6.7	9 36 51.66	1	2.580	32 46		16.27	
1021		Anonymous	8.0	9 37 11.61	2	2.637	− 29 10		16.29	
1022	ε	Leonis		9 37 53.89	7	3.425	+ 24 25 1.7	3	16.32	
1023		Lacaille 3996	6.6	9 38 32.87	1	2.447	− 38 55 50.1	1	16.35	
1024	18	Leonis		9 38 50.62	2	3.243	+ 12 27		16.37	
1025		Weisse (2) 832	8.7	9 39 28.63	1	3.295	+ 16 10		16.40	
1026		Anonymous	8.0	9 39 45		2.490	− 37 10 4.9	1	16.42	
1027		Brisbane 2651	7.1	9 41 31.10	2	2.430	40 2		16.45	
1028		Anonymous		9 40 45.60	1	2.723	24 34		16.47	
1029		Brisbane 2657	7.0	9 40 54.40	1	2.432	40 4		16.47	
1030		Anonymous	8.3	9 41 0.84	1	2.638	29 39		16.48	
1031		Anonymous	6.8	9 41 7.28	1	2.432	40 4		16.49	
1032		Lacaille 4021	6.0	9 41 33.25	1	2.587	32 35		16.51	
1033		Anonymous	6.0	9 41 45.80	2	2.489	37 33		16.52	
1034		O. Arg. S. 10122	8.0	9 41 55.56	1	2.726	24 34		16.53	
1035		Lacaille 4026		9 42 22		+ 2.707	− 25 45 58.7	1	− 16.55	

Number.		Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
1036		O. Arg. S. 10131 . . .	7.9	9 42 22.70	2	+ 2.641	− 29 42		− 16.55	
1037		Lacaille 4030	7.2	9 42 33		2.505	36 59 11.6	1	16.55	
1038		Lacaille 4036	5.0	9 43 36.04	2	2.517	− 36 32		16.61	
1039	μ	Leonis		9 44 47.68	6	3.445	+ 26 39 51.7	2	16.66	
1040		Anonymous		9 45 46.60	3	2.504	− 37 32		16.71	
1041		Lacaille 4052	6.6	9 45 50.23	1	2.605	− 32 19		16.72	
1042		(* 114) W.	9.5	9 46 1.04	1	3.269	+ 14 58		16.72	
1043		Anonymous	7.1	9 47 31.48	2	2.506	− 37 46		16.80	
1044		Lacaille 4058	7.7	9 47 47.38	1	2.695	27 20		16.81	
1045		Anonymous	7.9	9 48 5.09	2	2.688	27 50		16.82	
1046		Anonymous		9 48 6.41	1	2.509	37 45		16.82	
1047		O. Arg. S. 10219 . . .	6.5	9 48 55.20	1	2.690	27 52		16.86	
1048		Anonymous	7.0	9 49 6.59	1	2.608	32 44		16.87	
1049		Anonymous	8.5	9 49 20.06	1	2.464	40 6		16.88	
1050		O. Arg. S. 10227 . . .	8.8	9 49 47.31	1	2.692	27 50		16.90	
1051		Anonymous	7.2	9 50 8		2.493	38 53 19.4	3	16.92	
1052		Anonymous	6.5	9 50 19.30	1	2.481	40 9		16.93	
1053		O. Arg. S. 10236 . . .	7.5	9 50 20		2.667	29 27 31.8	1	16.93	
1054		B. A. C. 3405	6.2	9 50 28.76	2	2.611	32 45		16.94	
1055		Lacaille 4076	7.2	9 50 34.90	1	2.710	26 48		16.94	
1056		Lacaille 4089	7.2	9 52 27.00	2	2.686	− 28 38		17.03	
1057	π	Leonis		9 52 48.77	4	3.180	+ 8 43		17.04	
1058		Anonymous	7.6	9 53 3.09	2	2.666	− 30 1		17.06	
1059		Anonymous		9 54 6.84	1	2.573	35 35		17.10	
1060		Anonymous	7.3	9 54 12		2.590	34 38 38.1	1	17.11	
1061		Lacaille 4106, (1st *) . .	7.7	9 55 32.93	1	2.704	28 1		17.17	
1062		Lacaille 4106, (2d *) . .	7.9	9 55 33.88	1	2.704	28 1		17.17	
1063		Lacaille 4115	6.8	9 56 33.88	1	2.678	29 54		17.22	
1064		Anonymous	8.7	9 56 45.86	2	2.684	29 34		17.22	
1065		Anonymous	8.0	9 57 13.86	2	2.685	29 33		17.25	
1066		Anonymous	7.0:	9 57 46		2.529	38 36 12.5	1	17.27	
1067		O. Arg. S. 10337 . . .	5.0	9 57 53.09	1	2.775	− 23 36		17.28	
1068		Weisse 1243	8.0	9 58 7.02	1	3.236	+ 13 38		17.29	
1069		O. Arg. S. 10346 . . .	6.8	9 58 27.78	2	2.720	− 27 29		17.30	
1070		O. Arg. S. 10351 . . .	6.8	9 58 50.63	3	2.721	− 27 31		17.32	
1071		Weisse 1259	7.0	9 59 5		3.233	+ 13 27 45.0	1	17.33	
1072		Lacaille 4142	6.8	9 59 23.35	1	2.641	32 42		17.34	
1073	14	Sextantis		9 59 28.10	1	3.146	6 18		17.34	
1074		Weisse 1279	8.1	10 0 4.90	1	3.235	13 42 9.7	1	17.37	
1075	α	Leonis		10 0 54.84	4	3.221	+ 12 39 0.9	4	17.41	
1076		O. Arg. S. 10387 . . .	8.0	10 1 23.44	2	2.786	− 23 22		17.43	
1077		Anonymous	9.2	10 1 52.61	1	3.223	+ 12 56		17.45	
1078		Anonymous	8.5	10 2 39.42	1	2.660	− 32 12		17.48	
1079		Anonymous	9.0	10 2 40.70	1	3.223	+ 12 57		17.48	
1080		Anonymous	9.5	10 3 7.52	1	3.225	+ 13 10		17.50	
1081		Lacaille 4165	7.4	10 3 20.21	1	2.662	− 32 10		17.51	
1082		Lacaille 4185	6.5	10 5 34.74	1	2.646	33 38		17.61	
1083		Lacaille 4183	7.4	10 5 39.89	1	2.733	− 27 55		17.61	
1084		Weisse 75	9.0	10 5 54.61	1	2.217	+ 12 50		17.62	
1085		Lacaille 4186	6.5	10 5 56.08	2	2.533	− 40 11		17.62	
1086		Weisse 94	9.0	10 6 29		3.211	+ 12 22 49.9	1	17.65	
1087		O. Arg. S. 10471 . . .	6.0	10 7 36.14	1	2.803	− 23 7		17.69	
1088		Weisse 115	9.2	10 7 41.27	1	3.212	+ 12 34 29.9	1	17.70	
1089		Weisse 116	9.3	10 7 41.60	1	3.210	+ 12 22 3.8	1	17.70	
1090		B. A. C. 3497	6.5	10 7 48.63	1	2.551	− 39 39		17.70	
1091	32	Ursæ Majoris, S. P. . .		10 7 49		4.471	+ 65 48 14.7	1	17.70	
1092		B. A. C. 3498	7.0	10 7 58.47	1	2.552	− 39 37		17.71	
1093		Anonymous	7.0	10 8 12.12	2	2.571	38 39		17.72	
1094		Anonymous		10 8 19		2.709	− 30 7 23.8	1	17.72	
1095		B. A. C. 3495	4.7	10 8 40		10.149	+ 84 57 32.4	1	17.74	
1096		Anonymous	8.3	10 9 37.33	1	2.577	− 38 39		17.77	
1097		Lacaille 4218	7.2	10 9 41.48	3	2.744	− 27 56		17.78	
1098		Lalande 19981	9.0	10 10 19		3.203	+ 11 58 55.4	1	17.80	
1099		Lacaille 4227	7.0	10 10 37.71	1	2.667	− 33 25		17.82	
1100	γ^1	Leonis		10 12 14.98	8	+ 3.299	+ 20 33		− 17.88	

Number.	Name.		Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
1101	γ^3	Leonis		10 12 15.27	2	+ 3.299	+ 20 33		− 17.88	
1102		Weisse 209	7.3	10 12 59.40	2	3.200	+ 12 3 16.1	1	17.91	
1103		O. Arg. S. 10539	7.0	10 13 11		2.826	− 22 16 8.1	1	17.92	
1104		O. Arg. S. 10543	7.0	10 13 35		2.825	− 22 24 3.4	1	17.93	
1105		B. A. C. 3528		10 13 38		8.141	+ 83 16 5.1	1	17.93	
		S. P.	5.0				2.9	4	17.93	
1106		Lacaille 4250	7.0	10 13 55.97	1	2.693	− 32 25		17.94	
1107		Lacaille 4253		10 14 1.74	1	2.589	− 39 0		17.95	
1108		Weisse 240	7.2	10 14 42.49	2	3.198	+ 12 2		17.98	
1109	43	Leonis		10 15 40.72	2	3.152	+ 7 45		18.01	
1110		Anonymous	7.5	10 15 47.98	2	2.655	− 35 2		18.02	
1111		Anonymous	7.3	10 15 58.83	1	2.954	− 11 22		18.03	
1112		Weisse 276	6.7	10 16 54.31	1	3.188	+ 11 18		18.06	
1113		Rumker 3171	8.9	10 17 17.21	2	3.196	+ 12 4		18.07	
1114		Anonymous	7.5	10 17 43.59	1	2.957	− 11 18		18.09	
1115		Lacaille 4287	6.7	10 18 47.35	1	2.632	37 35		18.13	
1116		Lacaille 4286	6.0	10 18 54		2.762	− 28 29 2.9	1	18.14	
1117		Weisse 316	7.5	10 19 1.07	1	3.185	+ 11 13		18.14	
1118	45	Leonis	6.5	10 20 15.24	2	3.176	+ 10 28 30.2	1	18.19	
1119	α	Antliæ	4.5	10 20 44.83	2	2.744	− 30 21		18.20	
1120		Weisse 375	7.0	10 21 47.36	1	3.178	+ 10 52		18.24	
1121		Weisse 377	8.8	10 21 55.73	2	3.182	+ 11 15		18.25	
1122		Anonymous	6.8	10 21 58.80	2	2.676	− 35 30		18.25	
1123		Lacaille 4307	6.5	10 22 54.25	1	2.653	− 37 21		18.28	
1124		B. A. C. 3593		10 23 5		5.346	+ 76 25 56.4	2	18.29	
1125	30	Sextantis		10 23 8.00	2	3.073	0 5		18.29	
1126		Weisse 412	8.0	10 23 58.25	1	3.176	+ 10 47		18.32	
1127		O. Arg. S. 10684	8.1	10 24 11.84	2	2.825	− 24 30		18.33	
1128		Lacaille 4324	6.7	10 25 17.72	1	2.792	− 27 30		18.36	
1129		Weisse 439	9.0	10 25 26.16	2	3.176	+ 11 1		18.37	
1130	ρ	Leonis		10 25 26.22	5	3.167	+ 10 2		18.37	
1131		Anonymous	7.5	10 27 10.66	2	2.697	− 35 25		18.43	
1[illegible]		Lacaille 4340	7.5	10 27 17.64	1	2.808	26 37 40.1	1	18.43	
1133		Anonymous	8.3	10 28 14		2.674	37 24 23.8	1	18.47	
1134		B. A. C. 3627	6.2	10 28 17		2.857	22 27 17.7	1	18.47	
1135		Lacaille 4349	7.0	10 28 20.29	1	2.764	30 37		18.47	
1136		Anonymous	8.5	10 29 12.93	2	2.702	35 40		18.50	
1137		Lacaille 4360	6.5	10 29 28.70	1	2.821	25 57		18.51	
1138		Anonymous	7.9	10 29 52.88	3	2.704	35 39		18.53	
1139		Lacaille 4363	6.5	10 30 2.84	5	2.779	28 3		18.53	
1140		Lacaille 4365	6.7	10 30 10.64	2	2.746	32 33		18.54	
1141		B. A. C. 3638	6.5	10 30 38		2.817	26 41 17.3	1	18.55	
1142		Lacaille 4382	7.3	10 32 31.12	2	2.828	25 7		18.61	
1143		Lacaille 4384	7.1	10 32 34.84	3	2.655	39 58		18.61	
1144		Lacaille 4387	6.0	10 32 55.80	5	2.712	− 35 57		18.62	
1145		O. Arg. N. 11041	8.3	10 33 4.41	1	4.077	+ 63 46		18.63	
1146		Lacaille 4389	7.1	10 33 26.12	1	2.753	− 32 53 3.2	1	18.64	
1147		Lacaille 4399	5.5	10 34 28.22	1	2.730	− 35 1		18.67	
1148		Weisse 618	6.5	10 34 54.48	1	3.167	+ 11 6		18.69	
1149		Lacaille 4407	6.5	10 35 6.69	2	3.733	− 35 0		18.69	
1150		Lacaille 4406	7.2	10 35 13.71	1	2.843	25 18 55.5	1	18.70	
1151		Anonymous	7.5	10 35 35.00	1	2.726	35 45		18.71	
1152		Anonymous		10 36 34.89	1	2.729	35 49		18.74	
1153		Lacaille 4419	6.4	10 36 46.46	1	2.787	31 1		18.75	
1154		Anonymous	8.0	10 36 55.16	1	2.817	28 20		18.75	
1155		O. Arg. S. 10840	6.7	10 37 4		2.797	30 8 1.3	1	18.76	
1156		O. Arg. S. 10849	6.3	10 37 45.68	3	2.869	− 23 15		18.78	
1157	36	Sextantis		10 37 56.58	2	3.098	+ 3 13		18.78	
1158		Lacaille 4437	6.0	10 38 14.79	1	2.730	− 36 12		18.79	
1159		Weisse (2) 776	8.0	10 38 19.90	1	3.411	+ 36 22		18.79	
1160	37	Sextantis	6.0	10 38 48.33	1	3.130	+ 7 6 38.1	1	18.81	
1161		Anonymous	7.0	10 39 25.72	1	2.735	− 36 14		18.83	
1162		Lacaille 4450	6.5	10 39 33.61	2	2.683	40 14		18.83	
1163		O. Arg. S. 10872	8.6	10 39 51.26	3	2.834	27 26		18.84	
1164		O. Arg. S. 10874	8.0	10 39 51.69	3	2.835	− 27 24		18.84	
1165		Weisse 703	7.0	10 40 1		+ 3.129	+ 7 5 14.2	1	− 18.85	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1166	l Leonis		10 41 53.76	9	+ 3.161	+ 11 7		− 18.90	
1167	O. Arg. S. 10906	6.3	10 42 34.59	2	2.855	− 26 5		18.92	
1168	Anonymous	8.0	10 42 45.89	1	2.732	37 35		18.93	
1169	O. Arg. S. 10912	7.7	10 42 47	1	2.819	29 48 43.3	1	18.93	
1170	Anonymous	7.8	10 43 1		2.825	29 15 15.7	1	18.93	
1171	B. A. C. 3719	5.0	10 43 26.43		2.784	− 33 19		18.95	
1172	Σ Cat. Gen. 1248	8.2	10 43 27.37	1	3.278	+ 25 12		18.95	
1173	Lacaille 4488	6.7	10 43 55.41	1	2.788	− 33 6		18.96	
1174	Dorpat 1482, (1st *)	8.7	10 44 51.90	2	3.134	+ 8 11		18.99	
1175	Dorpat 1482, (2d *)	8.0	10 44 52.54	2	3.134	8 11		18.99	
1176	Anonymous	8.8	10 45 12.52	1	3.134	+ 8 9		19.00	
1177	O. Arg. S. 10933	7.2	10 45 15.44	3	2.885	− 23 38		19.00	
1178	O. Arg. S. 10936	9.0	10 45 36		2.852	29 20 10.8	1	19.01	
1179	O. Arg. S. 10941		10 45 54		2.832	29 26 21.6	1	19.02	
1180	O. Arg. S. 10944	7.9	10 46 0.43	1	2.867	25 50		19.02	
1181	O. Arg. S. 10952		10 46 40		2.835	29 21 5.8	1	19.04	
1182	Lacaille 4503	7.3	10 46 42.53	1	2.723	39 41		19.04	
1183	Anonymous	8.3	10 47 1.25	1	2.889	23 36		19.05	
1184	Lacaille 4506	7.2	10 47 12.50	1	2.815	31 34		19.05	
1185	Lacaille 4505	7.4	10 47 16.28	2	2.869	26 1		19.05	
1186	Anonymous	7.7	10 47 36.23	2	2.828	− 30 27		19.06	
1187	Dorpat 1487, (1st *)	6.5	10 48 1.56	1	3.269	+ 25 32		19.07	
1188	O. Arg. S. 10974	7.7	10 48 12.51	1	2.838	− 29 35 27.9	1	19.08	
1189	Lacaille 4516	7.0	10 48 44		2.870	− 26 13 57.2	1	19.09	
1190	Lalande 21014	8.0	10 48 47.26	1	3.254	+ 24 0		19.09	
1191	Lacaille 4519	6.8	10 49 14.43	1	2.827	− 31 3		19.11	
1192	B. A. C. 3755	4.5	10 50 11.96	3	2.777	36 23		19.13	
1193	O. Arg. S. 11003	7.0	10 50 14.32	2	2.836	30 27		19.13	
1194	Anonymous	8.3	10 50 22.35	1	2.862	27 45		19.14	
1195	O. Arg. S. 11015	8.1	10 51 17.38	2	2.866	27 34		19.16	
1196	O. Arg. S. 11020, (1st *)	7.7	10 51 47.32	2	2.902	23 27		19.17	
1197	Anonymous	7.3	10 52 17.58	1	2.911	22 30 15.5	1	19.19	
1198	Anonymous	7.8	10 52 37.52	3	2.793	− 35 46		19.20	
1199	β Ursæ Majoris		10 53 22		3.665	+ 57 7 54.5	1	19.22	
1200	Lacaille 4558	6.0	10 54 26.00	2	2.758	− 39 45		19.24	
1201	p^1 Leonis		10 54 41.24	2	3.061	− 1 44		19.25	
1202	α Ursæ Majoris		10 55 3		3.790	+ 62 30 21.7	8	19.26	
	S. P.					20.9	3	19.26	
1203	Anonymous	7.9	10 55 7.75	1	2.828	− 33 9 26.6	1	19.26	
1204	B. A. C. 3778	5.5	10 55 37.95	3	2.891	26 4		19.27	
1205	Lacaille 4567	6.2	10 55 45.74	2	2.758	40 21		19.27	
1206	Lacaille 4576	7.0	10 57 37.63	1	2.775	− 39 33		19.32	
1207	χ Leonis		10 57 47.65	11	3.122	+ 8 5 32.7	1	19.32	
1208	B. A. C. 3792	5.6	10 58 17.78	1	2.823	− 35 3 3.3	1	19.33	
1209	Weisse 1049	8.3	10 58 47.51	2	3.157	+ 13 34		19.34	
1210	Weisse 1060	7.3	10 59 11.30	1	3.156	13 28		19.35	
1211	p^3 Leonis		10 59 45.45	1	3.088	+ 2 43		19.37	
1212	Lacaille 4596	6.6	11 0 8.89	2	2.875	− 29 47 48.0	1	19.38	
1213	Anonymous	8.0	11 0 29		2.882	28 55 56.0	1	19.38	
1214	O. Arg. S. 11154	6.6	11 0 41.77	3	2.892	27 44		19.39	
1215	Lacaille 4607	6.8	11 1 16.59	3	2.811	37 39		19.40	
1216	Lacaille 4609		11 1 30.84	1	2.883	− 29 13		19.41	
1217	ψ Ursæ Majoris		11 1 46.90	1	3.411	+ 45 15		19.41	
1218	Lacaille 4614	7.0	11 1 54.60	1	2.886	− 28 59 21.5	1	19.41	
1219	Lacaille 4616		11 2 5.34	1	2.804	− 38 43		19.42	
1220	O. Arg. N. 11496	8.5	11 2 16.94	1	3.641	+ 59 39		19.42	
1221	O. Arg. S. 11188	8.6	11 2 38.39	3	2.916	− 25 14		19.43	
1222	Lacaille 4624	8.0	11 3 12		2.891	28 50 29.2	1	19.44	
1223	B. A. C. 3823	7.0	11 3 13		2.890	− 29 2 7.2	1	19.44	
1224	O. Arg. N. 11518	7.0	11 3 23.27	1	3.630	+ 59 39		19.45	
1225	O. Arg. S. 11208	6.8	11 3 41.75	5	2.919	− 25 14 5.0	1	19.45	
1226	Anonymous	9.0	11 4 27.33	1	2.920	25 23		19.47	
1227	O. Arg. S. 11216	7.0	11 4 27.67	1	2.921	− 25 10		19.47	
1228	(* 124) W.	9.0	11 5 8.01	1	3.608	+ 59 24		19.48	
1229	Lacaille 4638	6.9	11 5 8.29	5	2.922	− 25 22 26.6	1	19.48	
1230	Lacaille 4642	6.3	11 5 30.20	2	+ 2.877	− 31 41		− 19.49	

Number.	Name.		Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
1231	p^5	Leonis		11 6 35.50	2	+ 3.076	+ 0 41		− 19.51	
1232	δ	Leonis		11 6 39.49	4	3.192	21 17 25.0	3	19.52	
1233		O. Arg. N. 11584	7.5	11 7 21.33	1	3.578	+ 58 59		19.53	
1234		O. Arg. S. 11250	7.5	11 7 45.96	1	2.929	− 25 18 44.6	1	19.54	
1235		Lacaille 4667	6.6	11 8 29.96	1	2.833	38 43		19.55	
1236		Lacaille 4668	7.6	11 8 35.71	1	2.842	37 40		19.55	
1237		Anonymous		11 8 55		2.845	37 29 43.7	1	19.56	
1238		O. Arg. S. 11267	7.6	11 9 5.46	2	2.901	30 5		19.57	
1239		Lacaille 4672		11 9 13		2.838	38 34 3.1	1	19.57	
1240	φ	Leonis		11 9 32.68	4	3.057	2 53		19.57	
1241		Lacaille 4680	6.9	11 10 12.43	1	2.850	37 38 11.4	1	19.58	
1242		Lacaille 4687	7.0	11 10 52		2.889	32 46 14.5	1	19.60	
1243		O. Arg. S. 11291	6.7	11 11 23.41	1	2.924	27 40		19.60	
1244		Lacaille 4693	5.7	11 11 42.73	2	2.950	23 35		19.61	
1245	δ	Crateris		11 12 20.62	6	3.003	14 1 15.2	1	19.62	
1246		O. Arg. S. 11304	6.5	11 12 35.38	1	2.928	− 27 43		19.63	
1247		O. Arg. N. 11674		11 12 35.80	2	3.942	+ 72 29		19.63	
1248		O. Arg. S. 11311	8.8	11 13 5		2.917	− 29 40 51.9	1	19.64	
1249		Weisse 211		11 13 9.46	1	3.005	14 32		19.64	
1250		O. Arg. S. 11318	6.5	11 13 29.74	2	2.931	27 34		19.64	
1251		O. Arg. S. 11320	7.1	11 13 33.68	1	2.944	− 25 23		19.65	
1252	σ	Leonis		11 13 55.00	2	3.104	+ 6 48		19.65	
1253		Lacaille 4710		11 13 57		2.886	− 34 58 41.6	1	19.65	
1254		Lacaille 4713	6.5	11 14 23.52	2	2.888	34 45		19.66	
1255		Weisse 253	7.2	11 14 29.55	1	3.016	11 53		19.66	
1256		Anonymous	7.7	11 15 37		2.869	38 20 15.4	1	19.68	
1257		O. Arg. S. 11344	8.2	11 15 39.58	4	2.963	− 22 58		19.68	
1258		Weisse 261	9.2	11 16 1.27	1	3.089	+ 3 56		19.69	
1259		Lacaille 4725	7.1	11 16 12.77	3	2.936	− 28 7 45.0	1	19.69	
1260		O. Arg. S. 11353	7.0	11 16 22.69	4	2.965	− 22 56 21.8	1	19.69	
1261	ν	Leonis		11 16 37.52	1	3.122	+ 11 18		19.70	
1262		Weisse 284	7.6	11 17 33.40	2	3.084	+ 2 51		19.71	
1263		O. Arg. S. 11374	8.2	11 18 53.49	1	2.959	− 25 16		19.73	
1264	83	Leonis, (1st *)	6.6	11 19 39.89	3	3.087	+ 3 46 34.7	1	19.75	Mural mag. 8.0.
1265	83	Leonis, (2d *)	7.9	11 19 40.87	3	3.087	+ 3 47		19.75	
1266		Lacaille 4746	7.2	11 19 55.33	1	2.894	− 37 23		19.75	
1267		O. Arg. S. 11394	8.3	11 20 23.68	2	2.974	− 23 3		19.76	
1268	τ	Leonis	6.0	11 20 44.22	4	3.086	+ 3 37 37.6	1	19.76	
1269		Weisse 349	7.3	11 20 45.14	2	3.086	+ 3 36		19.76	
1270		Weisse 358	6.3	11 20 53.60	1	3.072	− 0 8		19.76	
1271		Anonymous	7.1	11 21 6.54	2	2.915	− 34 47		19.77	
1272		Weisse 365	6.4	11 21 14.43	1	3.086	+ 3 33		19.77	
1273		O. Arg. S. 11410		11 21 25.66	3	2.979	− 23 3		19.77	
1274		B. A. C. 3909	5.8	11 22 14.64	1	3.072	+ 0 5		19.78	
1275		(* 123) W.	9.0	11 22 38.91	1	3.748	+ 72 13		19.79	
1276		Lacaille 4758	6.6	11 22 41.82	2	2.960	− 27 15		19.79	
1277		Lacaille 4760	6.0	11 22 53.34	1	2.909	37 41		19.79	
1278		O. Arg. S. 11438	6.6	11 23 23.57	2	2.973	25 1 37.3	2	19.80	
1279		Weisse 403	7.7	11 23 43.32	1	3.050	5 57		19.81	
1280		O. Arg. S. 11444	7.6	11 24 3.55	3	2.956	29 7 39.6	1	19.81	
1281		Anonymous	9.0	11 24 6.89	1	2.954	29 30		19.81	
1282		O. Arg. S. 11446	7.5	11 24 7.61	2	2.961	28 1		19.81	
1283		B. A. C. 3921	6.0	11 25 19		2.962	28 29 46.1	1	19.83	
1284		B. A. C. 3922	5.8	11 25 19		2.962	28 29 37.8	1	19.83	
1285		B. A. C. 3927	4.8	11 25 59.52	1	2.908	39 40		19.84	
1286		Lacaille 4777	6.2	11 26 1.15	4	2.932	35 26		19.84	
1287		B. A. C. 3929	5.5	11 26 48.31	1	2.911	− 39 49		19.85	
1288		O. Arg. N. 11873	8.6	11 26 59.96	2	3.648	+ 71 35		19.85	
1289		Anonymous	6.7	11 27 26.14	2	2.910	− 40 33		19.86	
1290		Anonymous	7.1	11 27 28.32	2	2.937	35 26		19.86	
1291		O. Arg. S. 11491	6.7	11 28 5.54	2	2.968	29 13		19.86	
1292		Anonymous		11 28 6.49	1	3.053	5 45		19.86	
1293		Lacaille 4792	6.5	11 28 20.59	1	2.944	34 50		19.87	
1294	υ	Leonis		11 29 46.86	3	3.072	0 3 2.1	1	19.88	
1295		Anonymous	7.5	11 30 21.72	2	+ 2.953	− 34 21		− 19.89	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1296	Lacaille 4814	6.7	11 30 39.20	1	+ 2.936	— 38 38		— 19.89	
1297	Anonymous	7.2	11 31 10.54	1	2.955	34 49		19.90	
1298	O. Arg. S. 11531	8.5	11 31 17.02	2	2.995	24 49		19.90	
1299	Anonymous	9.0	11 31 18.54	2	2.995	24 52		19.90	
1300	Lacaille 4824	7.5	11 31 46.42	1	2.941	38 29		19.90	
1301	Anonymous	7.5	11 32 18.22	2	2.993	26 5		19.91	
1302	Lacaille 4830	7.3	11 32 27.75	1	2.944	38 37		19.91	
1303	O. Arg. S. 11557	7.5	11 33 2.50	2	2.982	29 42		19.92	
1304	Lacaille 4837	7.0	11 33 5		2.953	— 37 19 54.9	1	19.92	
1305	Carrington 1741	8.7	11 33 13.34	1	4.099	+ 81 21		19.92	
1306	Anonymous	6.9	11 33 16.85	3	2.990	— 27 43 12.8	1	19.92	
1307	γ Cephei S. P.		11 33 37.96	1	3.729	+ 76 51		19.92	
1308	B. A. C. 3969	5.5	11 34 44.87	1	2.981	— 31 43		19.93	
1309	B. A. C. 3974	6.0	11 36 29.22	2	2.971	— 36 25		19.95	
1310	O. Arg. N. 12020	7.0	11 36 39.82	2	3.544	+ 73 56		19.95	
1311	B. A. C. 3975	7.0	11 36 46		3.058	— 5 53 54.9	1	19.95	
1312	Weisse 646	7.9	11 37 29.64	1	3.056	7 3		19.96	
1313	Anonymous	7.2	11 38 30.44	2	2.978	— 36 51		19.97	
1314	ν Virginis		11 38 39.75	1	3.088	+ 7 19		19.97	
1315	Weisse 674	8.5	11 39 1.07	1	3.057	— 6 59		19.97	
1316	Lacaille 4881	7.8	11 39 19.00	1	3.010	27 10		19.97	
1317	Lacaille 4882	7.5	11 39 20.70	1	2.991	33 58 29.4	1	19.97	
1318	Anonymous	5.4	11 40 6.00	2	2.990	35 9		19.98	
1319	Lacaille 4890	6.4	11 40 16.06	2	3.007	29 30 1.1	1	19.98	
1320	O. Arg. S. 11656	7.0	11 40 16.38	2	3.018	25 11		19.98	
1321	Anonymous	9.5	11 40 54.81	1	3.058	7 22		19.99	
1322	Anonymous	6.9	11 41 37.82	2	2.996	— 35 15		19.99	
1323	β Leonis		11 41 55.02	12	3.101	+ 15 21 17.0	3	19.99	
1324	β Virginis		11 43 24.37	4	3.076	+ 2 33		20.00	
1325	Anonymous	7.5	11 43 33.38	1	3.000	— 36 57		20.00	
1326	Weisse 758	7.3	11 44 1.97	1	3.060	7 13		20.01	
1327	Anonymous	7.2	11 44 7.63	1	3.005	36 9 26.2	1	20.01	
1328	B. A. C. 4009	5.3	11 44 35		3.020	30 2 42.9	1	20.01	
1329	Anonymous	7.5	11 45 12.62	2	3.008	36 58 22.6	1	20.01	
1330	Anonymous	7.5	11 45 44.10	1	3.008	— 37 34		20.02	
1331	γ Ursæ Majoris		11 46 27		3.182	+ 54 28 23.7	4	20.02	
1332	B. A. C. 3974	6.3	11 46 30		3.014	— 36 24 46.6	1	20.02	
1333	Lacaille 4930	7.0	11 47 5.30	4	3.019	35 12 46.2	1	20.02	
1334	B. A. C. 4023	6.0	11 47 26		3.017	— 36 58 18.5	1	20.03	
1335	B. A. C. 4025	7.4	11 47 40.67	1	3.071	+ 0 42 52.5	1	20.03	
1336	Anonymous	10.0	11 48 7		3.063	— 7 52 49.5	1	20.03	
1337	B. A. C. 4034	5.8	11 48 48.84	1	3.019	+ 38 55		20.03	
1338	Radcliffe 2768	8.5	11 49 39.36	2	3.125	41 8		20.04	
1339	Radcliffe 2769	7.1	11 49 52.25	3	3.124	41 4		20.04	
1340	Radcliffe 2771	6.7	11 50 1.82	3	3.123	+ 41 7		20.04	
1341	Lacaille 4948	6.5	11 50 23		3.044	— 26 16 26.9	1	20.04	
1342	Lacaille 4955	6.5	11 50 59.32	3	3,045	26 54 15.0	1	20.04	
1343	Anonymous		11 51 4.91	1	3.048	26 55		20.04	
1344	Lacaille 4967		11 52 13		3.047	29 16 52.4	1	20.04	
1345	Weisse 895	8.7	11 52 24.18	1	3.071	1 8		20.04	
1346	O. Arg. S. 11831	7.7	11 53 51.60	3	3.055	25 42 1.6	1	20.05	
1347	Lacaille 4976	6.8	11 54 15.89	1	3.050	33 16 13.9	2	20.05	
1348	O. Arg. S. 11848	8.8	11 55 12.35	1	3.059	25 39		20.05	
1349	Anonymous	8.8	11 55 38.26	3	3.054	35 8		20.05	
1350	O. Arg. S. 11876	7.0	11 57 23.11	1	3.063	— 30 24		20.05	
1351	B. A. C. 4070		11 57 37.96	4	3.289	+ 86 23		20.05	
1352	Weisse 980		11 57 45.57	1	3.074	+ 9 30		20.05	
1353	Anonymous	7.8	11 58 1		3.064	— 33 25 44.6	1	20.06	
1354	o Virginis		11 68 4.61	8	3.074	+ 9 30 41.0	2	20.06	
1355	Lacaille 5013		11 58 45.38	1	3.067	— 34 55		20.06	
1356	Lacaille 5016	7.0	11 58 52		3.067	— 37 53 44.1	1	20.06	
1357	O. Arg. N. 12337	8.6	11 59 31.14	2	3.083	+ 75 27		20.06	
1358	O. Arg. S. 11908		11 59 50.94	2	3.072	— 22 59		20.06	
1359	Dorpat 1604, (1st *)	7.7	12 2 14.34	1	3.074	11 1		20.06	
1360	Dorpat 1604, (2d *)	9.4	12 2 15.04	1	+ 3.074	— 11 1		— 20.06	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1361	Dorpat 1604, (3d *)	8.8	12 2 17.63	1	+ 3.074	− 11 1		− 20.06	
1362	10 Virginis	5.7	12 2 30.91	3	3.071	+ 2 41 2.9	1	20.06	
1363	Lacaille 5042	7.5	12 2 33		3.082	− 32 42 28.8	1	20.06	
1364	Anonymous	9.0	12 2 41		3.085	39 47 20.5	1	20.05	
1365	ε Corvi		12 2 55.77	4	3.079	− 21 50		20.05	
1366	4 Draconis		12 5 35.16	1	2.913	+ 78 23 39.2	6	20.05	
1367	O. Arg. S. 11995	7.9	12 5 39.00	2	3.091	− 30 32		20.05	
1368	Lacaille 5063	6.0	12 5 57.87	1	3.095	33 20		20.05	
1369	Anonymous	6.0	12 6 0		3.095	− 33 20 46.7	1	20.05	
1370	δ Ursæ Majoris	3.8	12 8 29		2.993	+ 57 48 39.2	2	20.05	
1371	Anonymous	7.8	12 8 44.96	5	3.091	− 25 47 5.4	1	20.04	
1372	Anonymous		12 8 48.22	2	3.099	25 49		20.04	
1373	Anonymous	8.7	12 9 29.62	1	3.099	25 43		20.04	
1374	Anonymous	6.9	12 9 36.13	4	3.099	25 49 6.3	1	20.04	
1375	Lacaille 5088	7.0	12 10 28		3.115	35 18 56.9	1	20.04	
1376	O. Arg. S. 12057	6.9	12 10 40.45	3	3.099	23 14		20.03	
1377	Anonymous	8.4	12 11 19.24	1	3.104	25 48		20.03	
1378	13 Virginis	6.0	12 11 29.74	2	3.072	0 0 30.6	2	20.03	
1379	O. Arg. S. 12082	6.8	12 12 38.94	2	3.108	25 57		20.03	
1380	Anonymous	7.3	12 12 42.71	1	3.111	− 27 45		20.03	
1381	B. A. C. 4150	6.6	12 12 43.66	1	1.550	+ 87 13		20.03	
1382	η Virginis		12 12 44.64	9	3.072	+ 0 6 42.6	1	20.02	
1383	Anonymous	9.3	12 13 36		3.110	− 25 51 32.7	1	20.02	
1384	O. Arg. S. 12101	7.2	12 13 59.05	1	3.112	25 57		20.02	
1385	Anonymous	7.5	12 14 3		3.117	28 56 45.6	1	20.02	
1386	O. Arg. S. 12116	6.5	12 15 9.87	2	3.110	23 27		20.01	
1387	Anonymous	9.3	12 15 17.19	1	3.139	− 32 48		20.01	
1388	Dorpat 1636, (1st *)	9.2	12 15 24.38	2	3.062	+ 6 7		20.01	
1389	Dorpat 1636, (2d *)	7.2	12 15 24.86	2	3.062	+ 6 7		20.01	
1390	Lacaille 5126	7.2	12 15 52.72	1	3.141	− 36 42 48.3	1	20.01	
1391	Lacaille 5131	7.0	12 16 31		3.127	29 33 29.6	1	20.00	
1392	Lalande 23198	7.7	12 16 45.89	2	3.118	25 14 15.0	2	20.00	
1393	O. Arg. S. 12134	8.3	12 16 49.70	1	3.115	23 28		20.00	
1394	Lacaille 5143	7.0	12 17 57.26	3	3.121	25 12 44.0	2	20.00	
1395	O. Arg. S. 12161	7.7	12 19 18.98	2	3.128	26 24		19.99	
1396	O. Arg. S. 12170	6.9	12 20 6.23	3	3.134	27 56		19.98	
1397	Anonymous	8.2	12 21 13.72	4	3.159	35 11		19.97	
1398	Anonymous	8.0	12 22 27.83	4	3.164	35 5		19.96	
1399	Anonymous	9.0	12 22 35		3.173	− 37 33 53.6	1	19.96	
1400	20 Comæ	6.0	12 22 40		3.020	+ 21 40 18.3	2	19.96	
1401	Anonymous	8.3	12 24 10.12	3	3.163	− 32 54		19.95	
1402	Lacaille 5191	6.2	12 24 39.88	2	3.161	31 46		19.94	
1403	Lacaille 5193	7.5	12 25 10.36	2	3.162	31 42		19.94	
1404	Lacaille 5198	7.0	12 25 26.54	1	3.155	29 16 16.8	1	19.93	
1405	Anonymous	8.5	12 26 3.92	1	3.166	31 46		19.93	
1406	Anonymous	8.0	12 26 17.28	1	3.169	32 30		19.92	
1407	q Virginis		12 26 33.36	3	3.096	8 41		19.92	
1408	Anonymous	7.5	12 26 39.73	2	3.168	31 47		19.92	
1409	β Corvi		12 27 2.35	6	3.137	− 32 37 20.0	1	19.92	
1410	κ Draconis		12 27 29.32	2	2.619	+ 70 34		19.91	
1411	Lacaille 5214		12 28 30		3.207	− 39 5 46.8	1	19.90	
1412	Anonymous	7.5	12 28 40		3.180	32 58 27.2	2	19.90	
1413	O. Arg. S. 12269	9.5	12 28 42.72	1	3.151	25 13		19.90	
1414	Lacaille 5220	7.5	12 29 26.26	5	3.176	31 25		19.89	
1415	f Virginis		12 29 35		3.087	5 3 35.1	1	19.89	
1416	O. Arg. S. 12286	7.9	12 29 50.85	2	3.154	− 25 14		19.89	
1417	Weisse (2) 636	8.0	12 30 11.36	1	2.955	+ 33 48		19.88	
1418	χ Virginis		12 32 1.31	6	3.096	− 7 13		19.86	
1419	Lacaille 5234	7.2	12 32 43.38	2	3.216	37 5		19.85	
1420	O. Arg. S. 12332	8.2	12 33 18.70	2	3.167	26 4		19.84	
1421	O. Arg. S. 12342	7.5	12 34 3.59	1	3.161	24 13		19.84	
1422	γ^1 Virginis		12 34 33.80	3	3.074	0 41		19.83	
1423	γ^2 Virginis		12 34 33.90	3	3.074	0 41		19.83	
1424	Lacaille 5252	7.4	12 34 38.55	1	3.224	37 6		19.83	
1425	Anonymous	8.0	12 35 40.14	1	+ 3.219	− 35 16		− 19.81	

Number.		Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
1426		Anonymous	7.0	12 35 53.04	1	+ 3.251	— 40 35		— 19.81	
1427		Lacaille 5257		12 36 5		3.172	25 32 0.7	1	19.81	
1428		O. Arg. S. 12377 . . .	5.0	12 36 33.19	2	3.183	27 33		19.80	
1429		Anonymous	9.0	12 36 42		3.229	36 28 4.7	1	19.80	
1430		Lacaille 5271	6.0	12 37 48.25	1	3.189	28 0		19.78	
1431		O. Arg. S. 12389 . . .	6.5	12 37 48.46	1	3.189	28 0		19.78	
1432		O. Arg. S. 12390 . . .	7.5	12 37 51.26	1	3.194	29 0 56.0	1	19.78	
1433		Anonymous	7.2	12 38 2.73	2	3.235	37 3 16.4	1	19.78	
1434		Lacaille 5278	5.8	12 39 13.24	4	3.217	— 32 33		19.76	
1435		Lalande 23832 . . .	8.0	12 40 3		3.012	+ 14 22 55.2	1	19.75	
1436		Lacaille 5284	6.7	12 40 45.53	4	3.217	— 31 34		19.74	
1437		O. Arg. S. 12444 . . .	8.8	12 41 37.20	1	3.185	— 25 6		19.73	
1438	29	Comæ	6.5	12 41 53.30	1	3.007	+ 14 53		19.72	
1439		O. Arg. S. 12460 . . .	7.8	12 42 41.26	3	3.188	— 25 5		19.71	
1440		Weisse 722	9.0	12 42 45.67	1	3.126	12 18		19.71	
1441		Lacaille 5295	7.2	12 42 52.34	2	3.215	29 48 51.4	1	19.71	
1442		Anonymous	8.2	12 42 57.07	1	3.261	37 11		19.70	
1443		Weisse 728	7.5	12 43 9.81	1	3.127	12 16		19.70	
1444		Anonymous	8.2	12 44 9.57	1	3.192	25 7		19.69	
1445		Lacaille 5301	6.5	12 44 11.68	1	3.222	30 19		19.68	
1446		Lacaille 5302		12 44 17.21	1	3.223	— 30 26		19.68	
1447		Weisse 757	8.0	12 44 41		3.068	+ 0 50 55.4	1	19.68	
1448		Weisse 764	9.0	12 45 17.59	1	3.068	0 59		19.67	
1449		Weisse 876	9.0	12 45 27		3.068	+ 0 52 21.7	1	19.66	
1450		O. Arg. S. 12495 . . .	7.5	12 45 44.30	1	3.220	— 29 15		19.66	
1451		Anonymous	7.5	12 46 30		3.287	38 34 47.9	1	19.65	
1452	ψ	Virginis		12 47 4.54	2	3.114	8 47		19.64	
1453		O. Arg. S. 12520 . . .	6.6	12 47 58.24	1	3.228	— 29 18		19.62	
1454		B. A. C. 4342		12 48 8		0.339	+ 84 10 26.8	2	19.62	
1455		O. Arg. S. 12523 . . .	8.3	12 48 11.81	1	3.212	— 26 40		19.62	
1456		O. Arg. S. 12529 . . .	8.1	12 49 2.58	2	3.214	26 37		19.60	
1457		O. Arg. S. 12533 . . .	6.7	12 49 13.42	2	3.215	— 26 37		19.60	
1458		B. A. C. 4345		12 49 27.08	4	2.839	+ 39 4 17.6	1	19.59	
1459	α	Canum Venaticorum . .		12 49 28.47	6	2.839	+ 39 4 31.7	2	19.59	
1460		Anonymous	7.2	12 49 50.48	1	3.255	— 32 23 49.9	1	19.58	
1461		Lacaille 5348		12 51 18		3.238	29 16 35.2	1	19.56	
1462		O. Arg. S. 12573 . . .	7.1	12 52 43.17	3	3.202	23 9		19.53	
1463		Weisse 909	6.5	12 53 23.53	1	3.086	2 37		19.52	
1464		O. Arg. S. 12588 . . .	7.3	12 54 10.54	3	3.253	— 30 5		19.50	
1445		Weisse 926		12 54 21.75	1	3.059	+ 2 16		19.50	
1466		Lacaille 5371		12 55 19.79	1	3.283	— 33 33		19.47	
1467		B. A. C. 4369		12 56 3.24	1	3.286	33 30		19.46	
1468		O. Arg. S. 12615 . . .	7.8	12 56 19.13	2	3.224	25 2 58.3	1	19.45	
1469		Anonymous	7.5	12 56 37.04	2	3.171	16 54		19.45	
1470		Anonymous	9.5	12 56 45.89	1	3.320	37 4		19.44	
1471		O. Arg. S. 12620 . . .		12 56 47.88	1	3.244	25 56		19.44	
1472		O. Arg. S. 12629 . . .		12 57 36.86	2	3.173	16 55		19.43	
1473		Anonymous	7.3	12 58 2.29	3	3.301	34 22		19.42	
1474		Lacaille 5405	7.2	12 59 58.69	4	3.269	29 41 6.4	1	19.37	
1475	50	Virginis		13 2 25.85	2	3.133	9 35		19.32	
1476		Weisse 17		13 2 42.18	1	3.102	4 47		19.31	
1477	θ	Virginis		13 2 42.25	14	3.102	4 47		19.31	
1478		Anonymous	8.5	13 3 55		3.346	36 39 5.7	1	19.28	
1479		Lacaille 5457	6.5:	13 7 16		3.349	35 37 43.2	1	19.20	
1480		O. Arg. S. 12802 . . .	7.0	13 12 48.61	1	3.282	26 40		19.05	
1481		O. Arg. S. 12811 . . .	7.5	13 13 27		3.239	21 38 48.5	1	19.03	
1482		Lacaille 5510	7.1	13 14 48.50	2	3.273	25 6 25.0	1	19.00	
1483		Weisse 235	7.5	13 14 56.55	1	3.102	3 56		18.99	
1484		Lacaille 5514	6.7	13 15 17.54	1	3.346	32 24		18.98	
1485		Lalande 24816	7.2	13 16 35.42	2	3.271	24 23 52.9	1	18.95	
1486	α	Virginis		13 17 49.32	18	3.154	— 10 25 45.4	5	18.91	
1487	ζ	Ursæ Majoris		13 18 17		2.417	+ 55 39 26.1	1	18.90	
1488		Anonymous	8.5	13 19 4.50	3	3.388	— 34 55		18.87	
1489		Weisse 304	8.0	13 19 29.10	2	3.116	— 5 34		18.86	
1490		Weisse 312	8.3	13 19 52.25	1	+ 3.056	+ 1 57		— 18.85	

Number.		Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
1491		Anonymous	7.8	13 19 58.97	1	+ 3.392	— 34 57		— 18.85	
1492		Anonymous	8.9	13 20 41.06	1	3.369	32 46		18.82	
1493		B. A. C. 4496	6.6	13 21 5.92	1	3.073	0 6		18.81	
1494		Anonymous	7.0	13 21 24.99	2	3.395	— 34 50 32.3	1	18.80	
1495	71	Virginis	6.0	13 22 16.88	3	2.976	+ 11 33		18.78	
1496		O. Arg. S. 12908 . . .		13 22 49.61	1	3.272	— 22 55		18.76	
1497		Lalande 24977	7.8	13 23 23		3.293	24 55 57.2	1	18.74	
1498		Anonymous	8.7	13 23 46.39	1	3.400	34 29		18.73	
1499		O. Arg. S. 12920 . . .	7.3	13 23 55.94	3	3.352	— 30 19 55.7	1	18.73	
1500		Weisse 392	9.0	13 24 24.27	1	2.998	+ 8 47		18.71	
1501		Weisse 413		13 25 18.09	1	3.012	+ 7 4		18.68	
1502	h	Virginis	6.3	13 25 35.81	1	3.153	— 9 26 31.8	2	18.67	
1503	ζ	Virginis		13 27 33.73	10	3.071	+ 0 7 16.2	2	18.61	
1504		Anonymous	7.0	13 27 50.28	1	3.380	— 31 40		18.60	
1505		Weisse 461	8.8	13 27 56		3.009	+ 7 10 16.8	1	18.60	
1506		Weisse 472	9.3	13 28 13		3.008	7 13 39.3	1	18.59	
1507		B. A. C. 4536	7.0	13 28 32		2.680	+ 37 54 1.3	1	18.58	
1508		Anonymous		13 29 30		3.440	— 35 51 21.4	1	18.55	
1509		Anonymous	7.4	13 30 56.24	2	3.330	26 32 48.2	1	18.50	
1510		Lacaille 5625	6.0	13 31 36		3.508	— 39 20 14.7	1	18.48	
1511		Anonymous	8.3	13 32 4.04	1	0.807	+ 77 0		18.46	
1512		Anonymous	8.0	13 32 4.28	1	3.332	— 26 27		18.46	
1513		Anonymous	9.0	13 34 49.27	2	3.487	37 41		18.36	
1514		Lacaille 5655		13 35 7		3.377	— 29 28 28.2	1	18.35	
1515	o	Virginis		13 36 1		3.032	+ 4 14 50.0	1	18.32	
1516		O. Arg. S. 13085 . . .		13 36 3.70	1	3.361	— 27 58		18.32	
1517		Anonymous	7.5	13 36 10		3.465	35 51 8.6	1	18.32	
1518		Lacaille 5663	6.3	13 36 58.48	2	3.326	24 47 40.6	1	18.29	
1519	i	Centauri	5.5	13 37 44.37	1	3.422	32 20		18.26	
1520		Anonymous		13 38 5.09	1	3.452	34 28		18.25	
1521		Lacaille 5676	7.0	13 38 48		3.471	35 32 57.4	1	18.22	
1522		O. Arg. S. 13149 . . .	7.5	13 40 25.25	1	3.400	30 3		18.16	
1523		Anonymous		13 40 25.59	1	3.388	29 5		18.16	
1524		Anonymous	8.3	13 40 53		3.401	— 30 0 40.7	1	18.14	
1525		Weisse (2) 854		13 40 57.50	1	2.687	+ 34 1		18.14	
1526		O. Arg. S. 13156 . . .	6.7	13 41 1.56	4	3.401	— 30 1		18.14	
1527		Lacaille 5686	7.0	13 41 8		3.370	27 39 57.5	1	18.13	
1528	g	Centauri	6.0	13 41 20.72	1	3.454	33 45		18.13	
1529		Anonymous	8.3	13 41 32		3.487	35 54 28.5	1	18.12	
1530		O. Arg. S. 13167 . . .	7.4	13 41 59.78	2	3.371	— 27 29		18.10	
1531	η	Ursæ Majoris		13 42 1		2.386	+ 50 0 47.2	4	18.10	
1532		Lacaille 5692		13 42 1		3.371	— 27 29 13.5	1	18.10	
1533		O. Arg. S. 13169 . . .	8.7	13 42 6.20	2	3.372	27 29		18.10	
1534		O. Arg. S. 13177 . . .	7.5	13 42 52		3.375	27 36 38.4	1	18.07	
1535		O. Arg. S. 13182 . . .	7.5	13 43 7		3.375	— 27 33 46.7	1	18.06	
1536		Weisse (2) 910		13 43 7.49	1	2.673	+ 34 26		18.06	
1537		Lacaille 5710	7.5	13 43 40		3.328	— 23 41 1.9	2	18.04	
1538	κ	Centauri	6.0	13 43 45.32	1	3.442	32 18		18.03	
1539		Anonymous	8.5	13 45 9.08	1	3.392	— 28 23		17.98	
1540		Weisse (2) 978	9.0	13 45 37.36	1	2.807	+ 24 2		17.96	
1541		Lacaille 5729	5.5	13 45 44.78	2	3.483	— 34 37		17.96	
1542		O. Arg. S. 13215 . . .		13 45 48.98	1	3.362	— 26 1		17.96	
1543		Weisse (2) 994 . . .	8.0	13 46 17.59	1	2.842	+ 21 1		17.94	
1544		Lacaille 5754	6.5	13 47 52.86	2	3.420	— 29 53 22.6	1	17.88	
1545	η	Bootis		13 48 1.11	8	2.862	+ 19 6 3.6	1	17.87	
1546		Weisse (2) 1077 . . .		13 49 28.43	1	2.783	+ 25 13		17.81	
1547		Lalande 25635		13 49 41		3.325	— 22 20 12.6	1	17.80	
1548		Anonymous	8.0	13 49 54		3.432	30 16 38.8	2	17.79	
1549		Lacaille 5773	6.7	13 50 5.43	3	3.364	25 18 47.1	1	17.79	
1550		Lacaille 5774 . . .	7.5	13 50 10		+ 3.415	— 29 3 27.7	1	17.78	
1551		Radcliffe 3117	6.5	13 50 33.85	1	— 0.335	+ 79 41		17.77	
1552		Anonymous	8.3	13 52 2.85	1	+ 3.542	— 36 48		17.71	
1553		Brisbane 4727		13 52 48.04	1	3.545	36 50		17.68	
1554		Anonymous	7.2	13 52 52.85	1	3.576	— 38 35		17.67	
1555		Anonymous	9.0	13 53 50.74		+ 0.320	+ 76 54		— 17.63	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1556	Anonymous		13 54 6		+ 3.527	— 35 30 2.1	1	— 17.62	
1557	τ Virginis		13 54 31.39	1	3.047	+ 2 13		17.60	
1558	Anonymous	7.6	13 55 40.95	2	3.561	— 37 7		17.56	
1559	O. Arg. S. 13357 . . .	5.0	13 57 4.57	2	3.417	27 51		17.50	
1560	Lacaille 5812	8.5	13 57 34.26	2	3.567	37 3		17.47	
1561	94 Virginis		13 58 53.21	1	3.168	8 13		17.42	
1562	Anonymous	7.5	13 59 56.28	1	3.406	26 32		17.37	
1563	Anonymous	7.7	14 0 9.76	3	3.497	— 32 23 5.6	1	17.36	
1564	α Draconis		14 0 36		1.639	+ 65 2 46.2	2	17.34	
	S. P. .					44.8	6	17.34	
1565	Anonymous	7.2	14 1 3.76	1	3.409	— 26 33		17.32	
1566	Anonymous	7.6	14 1 7.49	1	3.409	26 33		17.32	
1567	Anonymous		14 2 16.71	1	3.414	26 44		17.27	
1568	Lacaille 5838	7.5	14 2 17		3.456	29 25 25.3	1	17.27	
1569	Lacaille 5839	7.0	14 2 40.88	1	3.489	31 25		17.25	
1570	Anonymous	7.2	14 2 58.39	1	3.406	— 26 4		17.24	
1571	d Bootis		14 3 58		2.740	+ 25 45 24.4	1	17.19	
1572	Lacaille 5855	7.0	14 4 30		3.375	— 23 41 9.0	1	17.17	
1573	50 Hydræ	5.5	14 4 45.18	3	3.419	26 36		17.16	
1574	κ Virginis		14 5 25.90	3	3.190	9 37 14.5	1	17.13	
1575	Lacaille 5872		14 8 1.79	1	3.525	— 32 35		17.00	
1576	α Bootis		14 9 16.64	2	+ 2.813	+ 19 54 38.5	6	16.95	
1577	4 Ursæ Minoris	5.0	14 9 26		— 0.355	+ 78 12 19.8	3	16.94	
	S. P. .					17.1	1	16.94	
1578	Lacaille 5883	6.0	14 10 7.18	1	+ 3.531	— 32 35		16.91	
1579	Weisse 174		14 10 38.72	1	3.129	— 4 30		16.89	
1580	ι Bootis		14 11 5		2.145	+ 52 0 50.0	1	16.86	
1581	λ Virginis		14 11 32.36	3	3.236	— 12 43 32.2	1	16.84	
1582	O. Arg. S. 13541 . . .	6.8	14 12 3.31	2	3.450	27 24		16.82	
1583	Weisse 209		14 12 21.58	1	3.129	4 30		16.80	
1584	Lacaille 5910	6.7	14 13 55.89	2	3.459	27 39 54.0	1	16.73	
1585	Anonymous		14 14 28		3.596	35 20 17.7	1	16.70	
1586	Anonymous	7.3	14 15 44.31	1	3.461	27 30		16.64	
1587	2 Libræ		14 15 53.81	1	3.218	11 4		16.63	
1588	Lacaille 5923		14 15 55.43	2	3.547	32 27		16.63	
1589	Anonymous		14 17 5.82	2	3.464	27 29		16.57	
1590	Lacaille 5932		14 17 11.51	1	3.549	32 20		16.57	
1591	O. Arg. S. 13626 . . .	8.0	14 19 12.55	1	3.471	27 17		16.47	
1592	O. Arg. S. 13629 . . .	7.7	14 19 21.45	2	3.466	27 16 17.9	2	16.46	
1593	O. Arg. S. 13647 . . .	7.4	14 20 26.68	3	3.469	27 17 22.0	2	16.41	
1594	O. Arg. S. 13663 . . .	7.0	14 21 27.65	2	3.439	25 23 7.6	1	16.36	
1595	O. Arg. S. 13679 . . .	7.0	14 22 38.73	1	3.456	26 13		16.30	
1596	Anonymous		14 22 49.27	1	3.445	25 32		16.29	
1597	Lacaille 5977	7.4	14 23 57.80	1	3.474	27 4 58.5	1	16.23	
1598	O. Arg. S. 13702 . . .	7.0	14 24 5.79	1	3.458	26 9 .		16.22	
1599	O. Arg. S. 13711 . . .		14 24 52		3.530	— 30 5 35.5	1	16.18	
1600	ρ Bootis		14 25 47.76	8	2.595	+ 30 59 14.1	1	16.13	
1601	Lalande 26560		14 26 15.48	1	+ 2.595	30 54		16.11	
1602	5 Ursæ Minoris	4.3	14 27 52		— 0.231	+ 76 19 6.6	8	16.03	
	S. P. .					5.4	5	16.03	
1603	O. Arg. S. 13757 . . .	8.1	14 28 59.52	2	+ 3.452	— 25 11 7.4	1	15.97	
1604	Lacaille 6035	6.7	14 31 48.58	2	3.482	26 31 30.3	2	15.81	
1605	Lacaille 6042	7.0	14 32 17.47	2	3.468	25 39 1.4	1	15.79	
1606	O. Arg. S. 13814 . . .	8.8	14 32 22.42	2	3.468	25 38		15.79	
1607	B. A. C. 4842	3.0:	14 33 8		3.700	37 11 24.1	1	15.74	
1608	Lacaille 6060	7.0	14 34 13.74	1	3.499	27 11 9.2	1	15.68	Mural mag. June 10, 9.0.
1609	μ Virginis		14 35 41.18	2	3.146	5 3		15.60	
1610	Anonymous	9.5	14 36 55.29	2	3.470	25 14 0 3	1	15.54	
1611	54 Hydræ	5.0	14 37 54.14	1	3.466	24 51		15.48	
1612	B. A. C. 4865	7.5	14 37 54.63	1	3.466	24 51		15.48	
1613	5 Libræ		14 38 14.86	1	3.298	— 14 52		15.47	
1614	108 Virginis		14 38 22		3.052	+ 1 18 35.5	1	15.46	
1615	ε Bootis		14 38 52.35	3	2.624	+ 27 40		15.43	
1616	56 Hydræ	5.5	14 39 34.86	3	3.481	— 25 59 53.1	2	15.39	
1617	B. A. C. 4888	8.0	14 41 7		3.451	23 39 56.3	1	15.31	
1618	Anonymous	9.0:	14 41 22.34	1	3.719	36 47 36.5	1	15.29	
1619	Lacaille 6109	8.0:	14 41 25		3.609	31 50 25.6	1	15.28	
1620	8 Libræ		14 42 56.87	3	+ 3.313	— 15 25		— 15.20	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1621	α Libræ		14 43 8.30	9	+ 3.313	— 15 27 26.8	5	— 15.18	
1622	B. A. C. 4912	5.0	14 46 5.41	3	3.642	32 45		15.02	
1623	Lacaille 6137		14 46 10		3.642	32 43 34.7	1	15.01	
1624	O. Arg. S. 14046	8.5	14 47 0		3.565	28 57 39.8	1	14.96	
1625	O. Arg. S. 14080		14 48 44.92	2	3.504	25 43		14.86	
1626	Anonymous		14 48 45.58	2	3.415	26 15		14.86	
1627	Lacaille 6162	6.2	14 48 52		3.562	28 35 21.9	1	14.86	
1628	ξ^2 Libræ		14 49 10.55	1	+ 3.244	— 10 51		14.84	
1629	β Ursæ Minoris		14 51 9.33	3	— 0.254	+ 74 43 40.1	8	14.72	
	S. P.					38.4	3	14.72	
1630	B. A. C. 4937		14 51 44		+ 1.979	50 12 6.0	1	14.68	
1631	Weisse (2) 1154	8.0	14 52 57		2.189	+ 43 58 31.0	1	14.61	
1632	Lacaille 6198	5.6	14 54 25.62	1	3.650	— 32 5 16.1	1	14.52	
1633	20 Libræ	3.6	14 55 52.98	1	3.500	24 43 44.4	2	14.44	
1634	O. Arg. S. 14230		14 57 33.88	2	3.512	25 12		14.33	
1635	Anonymous	7.1	14 57 58.50	2	3.448	— 21 53		14.31	
1636	ψ Bootis		14 58 26.78	6	2.583	+ 27 30		14.28	
1637	O. Arg. S. 14257	8.5	14 58 48		+ 3.592	— 28 57 34.2	1	14.25	
1638	B. A. C. 4982		14 59 56		— 4.719	+ 83 5 0.0	4	14.19	
	S. P.	5.7				0.3	3	14.19	
1639	O. Arg. S. 14278	8.2	15 0 17		+ 3.593	— 28 49 27.6	2	14.16	
1640	O. Arg. S. 14279	9.0	15 0 17.31	2	3.446	21 33 20.7	1	14.16	
1641	O. Arg. S. 14289	7.5	15 0 41		3.534	25 57 27.8	1	14.14	
1642	O. Arg. S. 14297		15 1 2.94	1	3.450	21 41		14.12	
1643	Weisse 1149		15 1 20		3.261	11 15 4.4	1	14.10	
1644	O. Arg. S. 14311	6.0	15 2 2.28	2	3.532	25 48		14.06	
1645	Lacaille 6258	6.5	15 3 5.00	1	3.697	33 7		13.99	
1646	ι Libræ		15 4 14.82	5	3.408	19 15		13.92	
1647	O. Arg. S. 14349	7.7	15 4 28.86	2	3.524	25 9		13.90	
1648	O. Arg. S. 14366		15 5 36.15	2	3.548	25 40		13.83	
1649	Anonymous		15 5 39.35	2	3.532	25 25		13.83	
1650	1 Lupi	5.7	15 6 3.06	1	3.655	31 0		13.80	
1651	O. Arg. S. 14395		15 7 17.63	1	3.570	27 4		13.72	
1652	2 Lupi	4.4	15 9 19.07	1	3.631	29 37 51.4	2	13.59	
1653	O. Arg. S. 14421	9.0	15 9 26		3.639	29 57 35.1	1	13.58	
1654	β Libræ		15 9 28.62	13	3.225	8 52		13.58	
1655	O. Arg. S. 14435	9.5	15 10 16		3.649	30 18 32.5	1	13.53	
1656	O. Arg. S. 14436		15 10 17.03	1	3.438	20 21		13.53	
1657	B. A. C. 5039	7.3	15 10 58		3.507	23 45 1.3	1	13.49	
1658	B. A. C. 5041	7.3	15 11 29		3.508	23 45 22.1	1	13.45	
1659	O. Arg. S. 14459		15 11 45.86	1	3.440	— 20 21		13.44	
1660	5 Serpentis	6.0	15 12 10		3.032	+ 2 17 49.5	1	13.41	
1661	Lalande 27907	9.0	15 12 18.55	1	3.469	— 21 45		13.40	
1662	O. Arg. S. 14466		15 12 23.09	1	3.546	25 28		13.39	
1663	Lacaille 6329	7.0	15 12 29.31	1	3.841	37 42		13.39	
1664	Lacaille 6342		15 13 30.34	1	3.689	31 41		13.32	
1665	O. Arg. S. 14487	8.8	15 13 56		3.647	29 52 24.6	1	13.29	
1666	ϕ^2 Lupi		15 14 13.16	1	3.809	36 21		13.27	
1667	O. Arg. S. 14511	9.0:	15 15 20		3.573	26 27 29.6	1	13.20	
1668	O. Arg. S. 14513	8.5	15 16 1.84	2	3.484	22 13		13.16	
1669	O. Arg. S. 14531	7.6	15 16 50.06	2	3.472	— 21 33		13.10	
1670	(* 117) W.	8.3	15 16 56.20	2	1.581	+ 55 49		13.10	
1671	Lacaille 6368	7.6	15 16 57.10	1	3.904	— 39 24		13.10	
1672	O. Arg. S. 14533		15 17 14.38	2	+ 3.602	— 27 36		13.08	
1673	11 Ursæ Minoris S. P.		15 17 15		— 0.111	+ 72 19 54.1	1	13.08	
1674	O. Arg. S. 14548		15 18 22.84	1	+ 3.602	— 27 29		13.00	
1675	O. Arg. S. 14554	7.7	15 18 35.35	5	3.484	— 22 1		12.99	
1676	μ Bootis		15 19 12.15	3	2.278	+ 37 52		12.94	
1677	Weisse (2) 414		15 19 13.48	1	2.279	+ 37 49		12.94	
1678	Lacaille 6388	6.8	15 20 15.59	1	3.849	— 37 9		12.88	
1679	ζ^1 Libræ		15 20 22.00	1	+ 3.370	— 16 13		12.87	
1680	γ^2 Ursæ Minoris		15 20 59		— 0.155	+ 72 19 55.8	2	12.83	
	S. P.					55.2	4	12.83	
1681	O. Arg. N. 15370		15 21 20.55		+ 1.797	51 5		12.80	
1682	ι Draconis		15 21 39		1.325	+ 59 27 22.3	1	12.78	
	S. P.					26.6	1	12.78	
1683	Lacaille 6405		15 22 29.71	1	3.752	— 33 20		12.72	
1684	Anonymous	7.6	15 22 53.68	2	3.515	23 11		12.70	
1685	Lacaille 6409	6.5	15 23 5.81	3	+ 3.729	— 32 24		— 12.68	

Number.		Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
1686		B. A. C. 5140, S. P.		15 24 0.57	1	+23.519	+ 87 46		— 12.62	
1687		O. Arg. S. 14624	8.5	15 24 1.34	2	3.481	— 21 29 8.6	1	12.62	
1688		Weisse 444	8.4	15 24 43.14	2	3.239	9 6 25.3	2	12.57	
1689		B. A. C. 5110	7.5	15 24 47.08	2	3.565	25 19 19.3	1	12.57	
1690		Lacaille 6415		15 24 48.28	1	3.934	39 36		12.57	
1961		Lacaille 6421		15 25 24.03	1	3.742	32 42		12.53	
1692		O. Arg. S. 14674		15 27 20		3.555	24 40 42.7	1	12.39	
1693		Lacaille 6439	6.0	15 27 24.83	2	3.745	32 37		12.39	
1694	γ	Libræ	4.4	15 27 41.94	4	3.341	14 19		12.37	
1695		Anonymous	9.5	15 27 45		3.535	23 43 47.2	1	12.37	
1696		O. Arg. S. 14687	6.0	15 28 32.04	1	3.625	— 27 40		12.31	
1697	α	Corona Borealis		15 28 45.70	8	2.530	+ 27 11 17.2	2	12.30	
1698		B. A. C. 5145	6.3	15 29 4.94	2	3.583	— 25 48 47.3	2	12.27	
1699		Anonymous	6.6	15 29 20.66	2	3.492	21 39		12.26	
1700		B. A. C. 5147	6.3	15 29 45.44	2	3.629	27 44 31.6	1	12.23	
1701	40	Libræ	6.0	15 30 4		3.668	— 29 18 47.9	1	12.20	
1702		Radcliffe 3415		15 30 58.15	1	2.169	+ 40 18		12.14	
1703		Anonymous	9.0	15 31 0		3.911	— 38 14 58.9	1	12.14	
1704		Radcliffe 3416		15 31 3.83	1	2.171	+ 40 16		12.14	
1705		Lacaille 6473	6.5	15 31 34.85	2	3.705	— 30 45		12.10	
1706		Lacaille 6471	6.5	15 31 50.30	5	3.953	39 32		12.08	
1707		Anonymous	7.7:	15 33 16			39 31 28.3	1	11.98	
1708	κ	Libræ	5.0	15 33 53.06	3	3.446	19 13 17.3	2	11.94	
1709		Lacaille 6491	7.0	15 33 54.79	2	+ 3.736	— 31 44		11.94	
1710		Anonymous	9.0	15 34 20.25	1	— 3.177	+ 80 14		11.91	
1711	η	Libræ	7.0	15 36 12		+ 3.366	— 25 13 22.4	1	11.78	
1712	α	Serpentis		15 37 22.51	5	2.941	+ 6 52 7.7	1	11.69	
1713		O. Arg. S. 14839	8.3	15 37 29.08	3	3.518	— 22 18 35.0	2	11.68	
1714		B. A. C. 5198		15 37 41.70	1	3.641	27 37		11.67	
1715		O. Arg. S. 14871		15 38 58.98	2	3.591	25 26		11.58	
1716		Anonymous	8.5	15 39 3		3.452	19 10 14.9	1	11.57	
1717		Anonymous	8.3	15 39 21.63	2	3.485	20 41 44.0	1	11.55	
1718		B. A. C. 5211	8.0	15 39 31.05	1	3.595	25 32 59.7	1	11.54	
1719		B. A. C. 5220	6.8	15 40 9.01	2	3.546	23 23 52.7	2	11.49	
1720		O. Arg. S. 14904	9.3	15 40 43.38	1	3.449	18 59		11.45	
1721		B. A. C. 5228	6.4	15 42 8.97	4	3.606	25 51 32.2	1	11.35	
1722		O. Arg. S. 14933		15 42 33.94	1	3.594	25 19		11.32	
1723		B. A. C. 5240	8.0	15 43 34.63	1	3.697	— 29 27 28.6	1	11.25	
1724	ε	Serpentis		15 43 50.36	5	2.977	+ 4 54 6.0	2	11.23	
1725		Anonymous		15 44 40		3.602	— 25 31 14.3	1	11.17	
1726		Anonymous	8.1	15 45 8.88	3	3.511	21 32 56.5	2	11.13	
1727	λ	Libræ	5.5	15 45 12.68	2	3.471	19 45		11.13	
1728		B. A. C. 5253		15 45 32.42	1	3.570	24 7		11.10	
1729		Lacaille 6582		15 46 57		3.991	39 26 55.1	1	11.00	
1730		B. A. C. 5265		15 47 5		3.614	25 51 1.0	1	10.99	
1731		O. Arg. S. 15023	7.3	15 47 38.57	3	3.607	25 31		10.95	
1732		Anonymous	8.2	15 48 36.60	3	+ 3.522	— 21 49		10.88	
1733	ζ	Ursæ Minoris, S.P.		15 49 8		— 2.324	+ 78 13 23.8	2	10.84	
1734		B. A. C. 5281	6.5	15 49 29.80	3	+ 3.495	— 20 34		10.81	
1735		O. Arg. S. 15072	7.7	15 50 19.97	1	3.494	20 29		10.75	
1736	π	Scorpii	3.3	15 50 23.30	4	3.615	25 42 22.7	1	10.75	
1737		B. A. C. 5296	6.0	15 50 57.60	3	3.716	29 41		10.70	
1738		Lacaille 6624		15 51 0.06	1	3.806	32 59		10.70	
1739	δ	Scorpii	3.0	15 52 3.62	6	3.535	22 13 10.7	2	10.63	
1740		O. Arg. S. 15112	7.2	15 52 45.91	2	3.575	23 52 1.9	1	10.57	
1741		B. A. C. 5308	7.0	15 53 59.52	2	3.697	28 44 24.3	1	10.48	
1742		O. Arg. S. 15147		15 54 35.40	1	3.575	23 47		10.44	
1743		O. Arg. S. 15183		15 56 35.60	1	3.565	23 14		10.30	
1744		O. Arg. S. 15191		15 56 58.48	1	3.566	23 17		10.26	
1745		O. Arg. S. 15194	7.4	15 57 12.98	3	3.580	23 50 9.1	2	10.24	
1746	β	Scorpii		15 57 18.08	10	3.477	19 25 12.6	2	10.23	
1747		B. A. C. 5330		15 57 18.46	6	3.477	19 25		10.23	
1748		B. A. C. 5335	6.0	15 57 45.72	2	3.566	23 13 15.5	1	10.20	
1749		B. A. C. 5345		15 59 28		3.589	24 4 58.7	1	10.07	
1750		O. Arg. S. 15271	8.4	16 0 18.49	4	+ 3.738	— 29 52 58.4	1	— 10.00	

Number.		Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
1751		B. A. C. 5354	6.8	16 0 26		+ 3.572	− 23 18 28.1	1	− 10.99	
1752		Lacaille 6703	7.0	16 0 42.74	1	4.037	39 46		9.98	
1753		Lacaille 6716	7.7	16 1 42.11	1	4.039	39 45		9.90	
1754		B. A. C. 5364	7.4	16 1 43.00	3	3.653	26 32 7.5	2	9.90	
1755	C²	Scorpii	5.6	16 3 41.06	3	3.682	27 33 32.3	1	9.75	
1756		O. Arg. S. 15360		16 3 50.71	1	3.476	19 5		9.74	
1757	ν	Scorpii	4.3	16 3 51.73	2	3.477	19 5 37.8	1	9.74	
1758		O. Arg. S. 15359	8.4	16 3 54.09	3	3.741	29 47		9.73	
1759		O. Arg. S. 15388	8.0	16 5 4.92	4	3.745	29 50 76.0	1	9.64	
1760		B. A. C. 5394	7.0	16 5 20.58	3	3.596	24 3 35.9	1	9.62	
1761		B. A. C. 5395	7.0	16 5 29		3.522	21 2 19.5	2	9.61	
1762		O. Arg. S. 15403	7.2	16 5 39.08	1	3.580	− 23 24 47.8	2	9.60	
1763		B. A. C. 5406 S. P.		16 5 57		0.138	+ 68 10 44.8	2	9.57	
1764		O. Arg. S. 15416	6.8	16 6 15.20	2	3.517	− 20 43		9.55	
1765	δ	Ophiuchi		16 7 0.74	5	3.141	3 19 50.8	2	9.49	
1766		Weisse 113		16 7 5.83	1	3.372	14 70		9.49	
1767		B. A. C. 5421	8.0	16 8 7.60	3	3.737	29 23 27.1	1	9.41	
1768		Lacaille 6765		16 8 23		3.883	34 28 13.0	1	9.39	
1769		O. Arg. S. 15466	6.9	16 8 44.05	3	3.525	20 57 4.9	1	9.36	
1770		Lacaille 6774		16 9 12		3.887	34 33 35.8	1	9.32	
1771		Anonymous	8.7	16 10 6.46	2	3.761	30 9 7.6	1	9.26	
1772		Anonymous	8.7	16 10 16.51	3	3.759	30 4 44.7	2	9.24	
1773		Anonymous		16 11 11		3.889	− 34 33 35.8	1	9.17	
1774		Weisse 221	9.5	16 12 3.84	1	2.884	+ 8 58		9.10	
1775	19	Scorpii	5.0	16 12 16		3.598	− 23 49 41.3	1	9.09	
1776		O. Arg. N. 16057	7.0	16 12 22.48	1	1.456	+ 53 34		9.08	
1777		Lacaille 6796	7.0	16 12 25.98	1	3.844	− 32 58		9.07	
1778		Lacaille 6797	7.0	16 12 34.09	1	3.844	32 54		9.06	
1779	σ	Scorpii	6.0	16 12 41.00	4	+ 3.635	− 25 15 8.9	1	9.05	
1780		Anonymous	9.5	16 13 3.48	1	− 3.434	+ 79 36		9.02	
1781		Anonymous	9.7	16 13 27.02	1	− 3.440	+ 79 36		8.99	
1782		Lacaille 6806		16 14 0:		+ 3.897	− 34 35 20.5	1	8.95	
1783		O. Arg. S. 15566	7.6	16 14 30.01	4	3.575	22 47 2.2	2	8.91	
1784		Lacaille 6818	7.0	16 15 22.19	1	3.890	34 51		8.84	
1785		B. A. C. 5464, (S. *)		16 15 53		3.748	29 22 22.4	1	8.80	
1786		B. A. C. 5464, (N. *)		16 15 53		3.748	29 22 14.4	1	8.80	
1787	ψ	Ophiuchi	5.1	16 15 54.84	3	3.502	19 42 21.1	1	8.80	
1788		O. Arg. S. 15612	9.0	16 17 0		3.612	24 8 19.5	1	8.71	
1789		B. A. C. 5476	7.5	16 17 0.73	4	3.756	29 35 45.1	1	8.71	
1790	ρ	Ophiuchi, (S. *)	6.1	16 17 13		3.586	23 7 15.4	2	8.70	
1791	ρ	Ophiuchi, (N. *)	6.9	16 17 14		3.586	23 7 11.0	2	8.70	
1792		O. Arg. S. 15643	7.2	16 18 44.53	4	3.741	28 58 4.6	1	8.56	
1793	χ	Ophiuchi		16 18 54.80	1	3.468	18 8		8.54	
1794		O. Arg. S. 15659		16 20 32.04	2	3.617	24 12		8.43	
1795	α	Scorpii		16 20 49.72	6	+ 3.667	− 26 7 3.3	6	8.41	
1796	η	Ursæ Minoris	5.2	16 21 39		− 1.835	+ 76 4 35.4	4	8.34	
		S. P.					34.3	3	8.34	
1797	η	Draconis		16 22 7		+ 0.799	+ 61 49 55.5	2	8.31	
1798		O. Arg. S. 15694		16 22 53.84	3	3.764	− 29 35		8.25	
1799	φ	Ophiuchi		16 23 7.71	1	3.429	16 18		8.23	
1800		O. Arg. S. 15712		16 24 6.39	2	3.528	20 29		8.15	
1801		B. A. C. 5522		16 24 6.39	1	3.813	31 15		8.15	
1802		O. Arg. S. 15713	8.7	16 24 10.89	3	3.537	20 26		8.14	
1803		Anonymous	8.3	16 24 12.38	1	3.528	20 29		8.14	
1804		O. Arg. S. 15725		16 25 26		3.617	23 59 24.5	1	8.05	
1805		Lacaille 6891	8.3	16 27 8.07	1	3.898	33 55		7.90	
1806		B. A. C. 5338	3.5	16 27 10.10	1	3.931	34 58		7.90	
1807		(* 67) W.	9.3	16 27 45.11	2	+ 3.161	− 4 7		7.86	
1808	A	Draconis		16 28 16.19	1	− 0.148	+ 69 4		7.82	
1809		Weisse 539	7.0	16 28 54.86	1	+ 3.258	− 8 34		7.76	
1810	ζ	Ophiuchi	3.0	16 29 27.11	4	3.296	10 16 48.0	2	7.72	
1811		O. Arg. S. 15783	7.5	16 29 56.35	3	3.586	− 22 36 19.2	2	7.68	
1812		Weisse 562	8.8	16 30 3.85	1	3.067	+ 0 15		7.67	
1813		O. Arg. S. 15788		16 30 7		3.618	− 23 50 46.3	1	7.66	
1814		B. A. C. 5556		16 30 26		3.775	− 29 38 29.9	1	7.64	
1815		Weisse 575	8.1	16 30 37.89	1	+ 3.065	+ 0 20		− 7.63	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1816	Lacaille 6925	9.0:	16 31 24.86	2	+ 3.733	− 28 39 33.3	1	− 7.56	
1817	O. Arg. S. 15834	8.5	16 32 57.76	1	3.628	24 8		7.44	
1818	B. A. C. 5571	7.2	16 33 7.22	4	3.630	− 24 11 32.9	3	7.42	
1819	Weisse 637	9.3	16 33 32.34	3	3.069	+ 0 7		7.39	
1820	Anonymous		16 33 48		4.067	− 38 40 19.6	1	7.36	
1821	Anonymous		16 35 13		4.086	39 7 28.1	1	7.25	
1822	O. Arg. S. 15881	7.6	16 35 21.54	4	3.536	20 25 39.5	3	7.24	
1823	B. A. C. 5600	7.0	16 35 36.48	1	3.713	− 27 11		7.22	
1824	ζ Herculis		16 36 0.54	2	2.296	+ 31 51		7.19	
1825	B. A. C. 5605		16 36 24.37	1	3.809	− 30 32		7.16	
1826	15 Ophiuchi		16 36 45		3.601	22 57 9.0	1	7.13	
1827	B. A. C. 5612	7.2	16 37 55.10	2	3.831	31 14		7.03	
1828	O. Arg. S. 15950	7.4	16 39 8.37	4	3.759	28 42 3.9	1	6.93	
1829	Lacaille 6987		16 40 12		3.912	33 45 49.1	1	6.84	
1830	O. Arg. S. 15977	7.8	16 40 27.62	1	3.434	16 4		6.82	
1831	B. A. C. 5630	7.6	16 40 34.44	2	3.840	31 24		6.82	
1832	18 Ophiuchi		16 41 13.32	2	3.643	24 23		6.76	
1833	Anonymous	10.0	16 41 32.51	1	3.162	4 5		6.73	
1834	Weisse 792	9.0	16 41 44.83	1	3.180	4 54		6.72	
1835	B. A. C. 5641		16 42 51		3.649	24 35 23.9	1	6.62	
1836	Anonymous	9.0	16 43 55.17	1	3.181	4 55		6.54	
1837	O. Arg. S. 16045	8.5	16 44 8.98	3	3.510	19 6 54.7	1	6.52	
1838	O. Arg. S. 16047	7.5	16 44 17		3.807	30 11 27.2	1	6.51	
1839	Weisse 845	7.8	16 44 21.44	3	3.264	8 37 24.1	1	6.50	
1840	Weisse 854	7.2	16 44 46.68	3	3.195	5 32 56.4	1	6.47	
1841	Weisse 859	7.3	16 45 4.46	1	3.181	4 55		6.44	
1842	B. A. C. 5663	6.3	16 45 12		3.537	20 10 37.1	1	6.43	
1843	O. Arg. S. 16076		16 45 42.36	2	3.510	19 5		6.39	
1844	B. A. C. 5678	6.6	16 46 9.92	4	3.839	31 10		6.35	
1845	22 Ophiuchi		16 46 23		3.618	23 16 41.6	1	6.33	
1846	O. Arg. S. 16100	7.6	16 46 42.35	1	3.777	29 2 44.5	1	6.30	
1847	B. A. C. 5684	7.0	16 46 52.92	3	3.842	31 15		6.29	
1848	Anonymous	7.4	16 47 14.32	2	3.372	13 17		6.26	
1849	24 Ophiuchi		16 48 23		3.610	22 55 26.9	1	6.17	
1850	Weisse 958	8.0	16 50 55.68	3	3.164	− 4 7 22.5	2	5.96	
1851	κ Ophiuchi		16 51 2.59	6	2.856	+ 9 35 44.4	1	5.94	
1852	Weisse 981		16 52 26.08	3	3.162	− 4 0		5.83	
1853	B. A. C. 5718	5.0	16 52 49.71	1	3.869	31 56		5.79	
1854	B. A. C. 5721		16 53 23.93	1	3.872	32 0		5.75	
1855	30 Ophiuchi	5.8	16 53 40.70	2	3.162	4 0 33.6	2	5.72	
1856	O. Arg. S. 16233	7.0	16 53 44.62	1	3.600	22 23		5.72	
1857	O. Arg. S. 16235	7.8	16 53 46		3.548	20 23 10.3	1	5.72	
1858	Weisse 1011	8.6	16 53 55.21	2	3.162	4 1		5.71	
1859	B. A. C. 5730	7.1	16 54 58.78	2	3.644	24 2 12.0	2	5.61	
1860	Anonymous		16 55 1.14	1	3.182	4 55		5.61	
1861	O. Arg. S. 16256		16 55 5.84	2	3.521	19 17 11.9	1	5.60	
1862	O. Arg. S. 16262	7.5	16 55 19.15	1	3.727	27 1		5.58	
1863	Anonymous	9.0	16 55 57.44	1	3.776	28 42 48.2	2	5.53	
1864	O. Arg. S. 16291		16 56 0		3.547	20 17 37.3	1	5.53	
1865	O. Arg. S. 16302	7.0	16 57 6.90	2	3.776	28 41		5.43	
1866	Dorpat 2119, (1st *)		16 58 34.47	2	3.387	13 44		5.31	
1867	Dorpat 2119, (2d *)		16 58 34.50	2	3.387	13 44		5.31	
1868	B. A. C. 5768	5.8	16 59 51.14	3	+ 3.824	− 30 12 47.6	1	5.21	
1869	ε Ursæ Minoris		17 0 26.88	2	− 6.438	+ 82 15 41.7	4	5.16	
1870	S. P.	4.0				39.5	6	5.16	
	ψ Ophiuchi		17 2 21.14	3	+ 3.432	− 15 33		4.99	
1871	B. A. C. 5782		17 2 39		4.135	39 19 37.5	2	4.97	
1872	O. Arg. S. 16420	7.5	17 2 55.26	3	3.719	26 31		4.94	
1873	Weisse 46	7.2	17 4 18.55	4	3.173	4 27 54.9	1	4.82	
1874	B. A. C. 5796	6.0	17 4 39.29	1	3.751	27 37		4.80	
1875	Anonymous		17 4 49		4.146	− 39 35 48.8	1	4.78	
1876	O. Arg. N. 16862	6.7	17 4 51.22	2	1.467	+ 51 1		4.78	
1877	Anonymous	7.2	17 5 47.59	1	3.955	− 33 35		4.70	
1878	O. Arg. S. 16505	8.2	17 6 31.87	1	3.716	26 20		4.64	
1879	O. Arg. S. 16511	6.5	17 6 33.22	1	3.566	20 48		4.64	
1880	B. A. C. 5807	6.5	17 6 38.67	1	+ 3.935	− 33 34		− 4.63	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
1881	A Ophiuchi, (1st *)		17 6 44.23	3	+ 3.717	— 26 23		— 4.62	
1882	A Ophiuchi, (2d *)		17 6 44.46	3	3.717	26 23		4.62	
1883	B. A. C. 5809		17 6 58		3.824	— 30 2 41.7	1	4.60	
1884	α Herculis, (1st *)		17 8 15.88	8	2.734	+ 14 33 10.8	4	4.49	
1885	α Herculis, (2d *)		17 8 16.04	5	2.734	+ 14 33		4.49	
1886	O. Arg. S. 16563, (1st *)		17 8 57.54	1	3.721	— 26 28		4.43	
1887	O. Arg. S. 16563, (2d *)	7.7	17 8 57.71	3	3.721	26 28		4.43	
1888	B. A. C. 5833		17 10 14.86	2	3.863	31 12 25.3	1	4.32	
1889	Weisse 186		17 11 33.38	1	3.167	4 9		4.21	
1890	Dorpat 2147	9.5	17 12 27.78	2	3.215	6 16		4.13	
1891	ξ Ophiuchi	6.0	17 12 36.91	1	3.573	20 57 32.5	2	4.12	
1892	θ Ophiuchi	4.0	17 13 24.88	3	3.678	24 51		4.05	
1893	Anonymous		17 14 18		3.877	31 33 37.5	1	3.97	
1894	Anonymous	7.5	17 14 28.74	2	3.878	31 34		3.96	
1895	Lalande 31556	7.5	17 14 45.00	2	3.624	22 52 11.7	2	3.93	
1896	Weisse 254	8.5	17 15 11.76	1	3.214	6 11		3.90	
1897	O. Arg. S. 16710		17 15 31		3.841	30 23 33.0	1	3.87	
1898	Lacaille 7268		17 15 47		3.976	34 33 41.8	2	3.84	
1899	Anonymous		17 15 55		3.971	34 25 41.7	1	3.83	
1900	B. A. C. 5868	6.3	17 16 32.95	5	3.660	24 7		3.78	
1901	b Ophiuchi		17 17 49.36	8	3.658	24 3		3.67	
1902	B. A. C. 5892	7.5	17 19 38.31	2	3.869	31 15 42.9	3	3.51	
1903	O. Arg. S. 16816	8.2	17 19 55.25	3	3.574	20 51		3.49	
1904	O. Arg. S. 16844		17 21 28.15	3	3.535	19 21 22.6	1	3.36	
1905	c^3 Ophiuchi		17 22 52.62	2	3.655	23 51		3.23	
1906	Anonymous	8.5	17 22 56.49	2	3.887	31 43		3.23	
1907	Lacaille 7330	6.0	17 23 8.40	1	3.968	34 10		3.21	
1908	B. A. C. 5914	7.0	17 23 55.07	1	3.928	32 57		3.14	
1909	B. A. C. 5924		17 25 33.53	1	3.891	31 46		3.00	
1910	Anonymous	8.0	17 26 2.97	1	4.126	38 33		2.96	
1911	B. A. C. 5932		17 26 54.47	2	4.126	— 38 32		2.89	
1912	β Draconis		17 27 16		1.354	+ 52 24 24.7	1	2.86	
1913	α Ophiuchi		17 28 26.18	12	2.774	+ 12 39 54.3	4	2.76	
1914	B. A. C. 5943	7.9	17 28 53.74	3	3.787	— 28 20 46.9	1	2.71	
1915	Anonymous		17 29 12		3.570	20 35 55.2	1	2.69	
1916	B. A. C. 5946	7.3	17 29 22.86	3	3.776	27 57 24.7	3	2.67	Est. of magnitude discord't.
1917	O. Arg. S. 17016		17 30 24		3.743	26 50 55.4	2	2.58	
1918	B. A. C. 5960	7.0	17 30 53.75	2	3.905	32 7		2.54	
1919	Anonymous	7.0	17 31 3.61	1	3.902	32 5		2.53	
1920	Anonymous	7.0	17 31 36.22	1	3.905	32 7		2.48	
1921	B. A. C. 5964	6.5	17 31 51.13	1	3.905	32 8		2.46	
1922	B. A. C. 5966	8.0	17 31 56		3.772	27 48 42.2	1	2.45	
1923	Rumker 5903		17 33 0.06	1	4.032	35 52		2.36	
1924	Anonymous	8.0	17 33 18		3.976	34 14 37.6	1	2.34	
1925	o Serpentis		17 33 32.85	1	3.374	12 48		2.31	
1926	O. Arg. S. 17091	7.5	17 33 50		3.643	23 16 34.7	2	2.28	
1927	O. Arg. S. 17094	7.5	17 33 50.53	4	3.654	23 40		2.28	
1928	B. A. C. 5977	6.0	17 33 55.52	1	3.933	32 57		2.28	
1929	B. A. C. 5980	6.5	17 34 25.55	1	3.922	32 36		2.24	
1930	Anonymous	8.0	17 34 30		3.981	34 22 47.6	1	2.23	
1931	B. A. C. 5983	7.0	17 34 31.51	1	3.841	30 4		2.23	
1932	Anonymous		17 35 5		3.877	31 12 18.8	1	2.18	
1933	B. A. C. 5989	6.6	17 35 45.57	2	3.653	23 36 37.9	1	2.12	
1934	Lacaille 7420	7.0	17 36 48.03	1	+ 4.157	— 39 12		2.03	
1935	ω Draconis		17 37 47		— 0.363	+ 68 49 22.6	3	1.94	
	S. P.	4.5				20.8	2	1.94	
1936	Dorpat 2204, (1st *)	7.6	17 38 26.78	3	+ 3.385	— 13 13		1.88	
1937	Dorpat 2204, (2d *)	7.6	17 38 27.13	3	3.385	13 13		1.88	
1938	3 Sagittarii	6.0	17 38 46		3.773	27 46 22.9	1	1.86	
1939	B. A. C. 6011	7.0	17 39 7.15	1	3.925	32 39	1	1.82	
1940	O. Arg. S. 17209	7.2	17 39 10.15	2	3.577	20 46 49.0		1.82	
1941	B. A. C. 6015	6.2	17 39 43		3.748	26 55 13.7	1	1.77	
1942	B. A. C. 6016		17 40 6		3.893	31 39 3.7	1	1.74	
1943	Lacaille 7448	6.7	17 40 6.28	1	4.016	35 19		1.74	
1944	B. A. C. 6017		17 40 18		3.858	— 30 32 39.0	1	1.72	
1945	μ Herculis		17 40 58.80	6	+ 2.369	+ 27 48		— 1.66	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		′	
1946	B. A. C. 6023	6.3	17 41 23.78	3	+ 3.670	— 24 9 25.2	2	— 1.63	
1947	Anonymous	6.8	17 41 43.44	1	4.016	35 19		1.60	
1948	Anonymous	8.4	17 42 11.31	2	3.798	28 34		1.56	
1949	B. A. C. 6029		17 42 57		3.997	34 45 23.1	1	1.49	
1950	Anonymous		17 43 0 56	2	3.798	28 34 45.1	1	1.49	
1951	B. A. C. 6032		17 43 13.26	1	3.881	31 17 8.3	1	1.47	
1952	Anonymous	6.2	17 43 34.15	1	4.005	34 58		1.44	
1953	B. A. C. 6038	7.0	17 44 2.21	1	+ 4.001	— 34 51		1.39	
1954	ψ^1 Draconis		17 44 26		— 1.088	+ 72 12 58.0	3	1.36	
	S. P.	4.5				57.0	2	1.36	
1955	B. A. C. 6043	6.0	17 44 34.80	1	+ 3.997	— 34 42 56.1	1	1.35	
1956	Anonymous	8.0	17 44 50.81	1	3.052	36 20		1.33	
1957	B. A. C. 6046	6.5:	17 45 10		3.987	— 34 25 53.2	2	1.30	
1958	Weisse 903	7.6	17 45 22.95	5	2.867	+ 8 44		1.28	
1959	B. A. C. 6051	5.0	17 45 39.59	1	4.058	— 36 27		1.25	
1960	O. Arg. S. 17340	8.5	17 46 18.59	3	3.584	20 58 49.8	1	1.20	Differs 31″ from Argelander.
1961	B. A. C. 6057	6.3	17 47 6.67	2	3.920	32 26		1.13	
1962	O. Arg. S. 17376	7.8	17 47 58.46	5	3.777	27 50		1.05	
1963	O. Arg. S. 17379		17 48 13		3.755	27 6 39.2	1	1.03	
1964	Anonymous		17 49 35		4.136	38 33 12.2	1	0.91	
1965	B. A. C. 6072	6.2	17 49 46.20	3	3.804	— 28 44		0.89	
1966	Dorpat 2244	7.0	17 49 54.07	1	3.069	+ 0 7		0.88	
1967	B. A. C. 6074, (1st *)	5.0	17 50 5.76	1	3.850	— 30 14		0.87	
1968	B. A. C. 6074, (2d *)	7.8	17 50 6.09	1	3.850	30 14		0.87	
1969	Anonymous	9.0	17 50 12		3.888	— 31 25 28.8	1	0.86	
1970	Dorpat 2245, (1st *)	7.8	17 50 15.94	5	2.629	+ 18 21		0.85	
1971	Dorpat 2245, (2d *)	7.8	17 50 16.12	5	2.629	18 21		0.85	
1972	ξ Draconis		17 51 6		1.023	+ 56 53 44.6	1	0.78	
	S. P.					42.9	1	0.78	
1973	O. Arg. S. 17443	7.5	17 51 9.39	2	3.584	— 21 1		0.77	
1974	4 Sagittarii		17 51 14.70	2	3.661	23 48		0.76	
1975	B. A. C. 6081		17 51 42		3.567	20 19 27.7	1	0.72	
1976	Anonymous	8.5	17 51 54		+ 4.118	— 38 4 15.1	1	0.71	
1977	O. Arg. N. 17680		17 51 59.37	1	— 2.500	+ 76 31		0.70	
1978	B. A. C. 6083	6.8	17 52 20.19	1	+ 4.056	— 36 22		0.67	
1979	Anonymous		17 52 21.43	2	3.073	— 0 3		0.67	
1980	γ Draconis		17 53 21		1.391	+ 51 30 24.7	2	0.58	
1981	O. Arg. S. 17506, (1st *)	9.0	17 53 53.23	3	3.640	— 23 1		0.53	
1982	O. Arg. S. 17506, (2d *)	8.5	17 53 53.63	4	3.640	23 1 27.4	1	0.53	
1983	Anonymous	7.5	17 55 26.74	3	3.635	— 22 49 38.8	1	0.40	
1984	95 Herculis, (1st *)	5.5	17 55 33.63	4	3.601	+ 21 36		0.39	
1985	95 Herculis, (2d *)	5.5	17 55 34.12	4	+ 3.601	21 36		0.39	
1986	35 Draconis		17 55 43		— 2.708	+ 76 58 40.0	2	0.37	
	S. P.	5.0				43.0	2	0.37	
1987	Lacaille 7551		17 56 15.39	1	+ 4.064	— 36 34		0.33	
1988	γ^2 Sagittarii		17 56 48.94	4	3.857	— 30 25		0.28	
1989	70 Ophiuchi, (1st *)		17 58 22.74	3	3.013	+ 2 32		0.14	
1990	70 Ophiuchi, (2d *)		17 58 23.17	3	3.013	+ 2 32		0.14	
1991	O. Arg. S. 17648	7.5	17 58 57.20	1	3.591	— 21 13		0.09	
1992	B. A. C. 6131	7.3	17 59 55.62	1	3.880	31 9		— 0.01	
1993	O. Arg. S. 17681	7.3	18 0 5.28	4	3.592	21 16 3.3	1	+ 0.01	
1994	O. Arg. S. 17728	8.5	18 1 20.60	2	3.542	— 19 22 33.0	1	0.12	
1995	Weisse 18	8.8	18 2 25.88	2	3.012	+ 2 34		0.21	
1996	Dorpat 2281	6.5	18 2 36.21	2	2.979	+ 3 58		0.23	
1997	B. A. C. 6160	6.9	18 3 4.37	3	3.811	— 28 55 35.7	1	0.27	
1998	B. A. C. 6161		18 3 11		3.659	— 23 43 31.6	1	0.28	
1999	Dorpat 2288	8.0	18 3 21.15	1	3.013	+ 2 31		0.29	
2000	Anonymous	7.8	18 4 32.28	2	3.642	— 23 9		0.40	
2001	μ Sagittarii	5.5	18 5 23.46	12	3.587	21 5 29.0	2	0.47	
2002	Anonymous	9.2	18 6 10.69	1	3.532	18 59		0.54	
2003	O. Arg. S. 17892	7.8	18 6 45.67	2	3.532	18 59		0.59	
2004	•15 Sagittarii		18 6 55		3.579	20 45 59.9	1	0.60	
2005	O. Arg. S. 17905	7.9	18 7 2.00	2	3.533	19 2		0.61	
2006	O. Arg. S. 17916	8.0	18 7 13.36	2	3.531	18 58		0.63	
2007	B. A. C. 6182	7.0	18 7 14.59	1	3.886	31 22		0.63	
2008	Anonymous	7.5	18 7 26.62	1	3.806	28 46		0.65	
2009	O. Arg. S. 17928	8.0	18 7 30.65	2	3.532	19 0		0.66	
2010	Anonymous		18 8 10.94	1	+ 3.532	— 19 0		+ 0.71	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		s.	
2011	B. A. C. 6188	7.0	18 8 12.12	1	+ 3.885	− 31 20		+ 0.72	
2012	17 Sagittarii		18 8 18		3.574	20 35 11.0	1	0.73	
2013	B. A. C. 6190		18 8 33		3.804	28 41 44.7	1	0.75	
2014	O. Arg. S. 17965 . . .	7.5	18 8 43.92	1	3.532	19 1		0.76	
2015	O. Arg. S. 17975 . . .		18 9 5		3.657	23 38 3.3	1	0.79	
2016	O. Arg. S. 18015 . . .	8.0	18 10 29.92	2	3.523	18 40		0.92	
2017	O. Arg. S. 18017 . . .	7.5	18 10 30.94	1	3.523	18 40		0.92	
2018	B. A C 6202	6.7	18 11 22.45	1	3.886	31 22		0.99	
2019	O. Arg. S. 18044 . . .	8.0	18 11 24.00	2	3.649	23 23		1.00	
2020	Anonymous	8.8	18 12 9.02	1	3.794	28 25		1.06	
2021	B. A. C. 6220	6.6	18 13 8.56	3	3.799	28 34 22.3	1	1.15	Differs 5′ from B. A. C.
2022	B. A. C. 6222		18 13 33.70	2	3.638	22 58 54.7	1	1.18	
2023	η Serpentis		18 14 3.93	1	3.140	2 56		1.23	
2024	Anonymous		18 15 20		4.138	38 38 36.3	1	1.34	
2025	B. A. C. 6236	8.1	18 15 31		3.917	32 21 33.8	2	1.36	
2026	O. Arg. S. 18198 . .		18 17 17		+ 3.586	− 21 6 35.6	1	1.51	
2027	δ Ursæ Minoris		18 17 31		−19.381	+ 86 36 8.0	13	1.53	
	S. P. .	4.5				6.9	8	1.53	
2028	B. A. C. 6249	6.5	18 17 41		+ 3.837	− 30 27 59.4	1	1.55	
2029	Anonymous		18 18 10		3.826	29 29 50.7	1	1.59	
2030	λ Sagittarii		18 18 22		3.707	25 29 41.2	1	1.61	
2031	B. A. C. 6266		18 19 37.60	2	3.640	23 5		1.72	
2032	O. Arg. S. 18248 . . .		18 19 46.30	1	3.502	17 53		1.73	
2033	B. A. C. 6279		18 21 13.00	1	3.420	14 39		1.85	
2034	B. A. C. 6284		18 21 47.64	1	3.420	14 40		1.90	
2035	23 Sagittarii	7.0	18 21 58.78	2	3.646	23 20 22.2	1	1.92	
2036	Anonymous	9.0	18 22 5		+ 3.916	− 32 22 41.0	1	1.93	
2037	24 Ursæ Minoris		18 22 32		−22.149	+ 86 58 47.3	2	1.97	
2038	O. Arg. S. 18314 . . .	8.5	18 22 36.55	2	+ 3.599	− 21 36 59.7	1	1.98	
2039	B. A. C. 6292	7.1	18 23 6.12	2	3.530	18 59 35.8	1	2.02	
2040	B. A. C. 6301		18 24 16		3.531	19 4 7.5	1	2.12	
2041	Anonymous	9.0	18 25 14.06	1	3.870	31 0		2.20	
2042	B. A. C. 6310	7.2	18 25 14.86	6	3.870	30 59 0.4	2	2.20	
2043	Anonymous		18 25 22.98	2	3.870	31 0		2.21	
2044	O. Arg. S. 18395 . . .		18 25 53.01	1	3.494	17 38		2.26	
2045	1 Aquilæ		18 27 35.25	14	3.266	8 20 19.6	2	2.41	
2046	B. A. C. 6334	7.0	18 29 10.51	1	3.926	32 47		2.55	
2047	Anonymous	8.0	18 29 20		3.659	23 30 40.4	2	2.56	R. A. perhaps 20s. greater.
2048	O. Arg. S. 18486 . . .	7.5	18 29 56.93	2	3.641	23 13		2.61	
2049	Anonymous	8.7	18 30 21		3.905	32 9 9.1	1	2.65	
2050	B. A. C. 6346	7.1	18 30 32.26	3	3.647	23 18 0.4	2	2.66	
2051	O. Arg. S. 18505 . .	8.6	18 31 9.62	3	3.707	25 37		2.72	
2052	O. Arg. S. 18506, (1st *) .	8.9	18 31 13.15	3	3.707	25 37		2.72	
2053	O. Arg. S. 18506, (2d *) .	7.2	18 31 13.48	3	3.707	− 25 37		2.72	
2054	α Lyræ		18 32 11.91	15	2.013	+ 38 39 21.1	37	2.81	
2055	Anonymous		18 32 55		3.886	− 31 36 15.0	1	2.87	
2056	Lacaille 7823	8.0:	18 33 12		4.159	39 24 52.1	1	2.89	
2057	26 Sagittarii	5.5	18 33 19.14	2	3.660	23 58		2.91	
2058	O. Arg. S. 18564 . . .	7.4	18 34 6.59	2	3.565	20 26 28.7	1	2.97	
2059	Anonymous		18 34 15		3.890	31 46 1.1	1	2.99	
2060	2 Aquilæ	5.3	18 34 36.44	1	3.286	9 11		3.02	
2061	O. Arg. S. 18577 . . .	6.3	18 34 40.18	2	3.538	19 24 50.9	2	3.02	
2062	O. Arg. S. 18584 . . .	8.0	18 35 3.51	1	3.536	19 21		3.05	
2063	O. Arg. S. 18604 . . .	6.9	18 35 53.64	2	3.538	19 27 13.9	2	3.13	
2064	O. Arg. S. 18609 . . .	8.0	18 36 16.98	1	+ 3.581	− 21 6		3.17	
2065	O. Arg. N. 18534 . . .	8.0	18 36 46.92	1	− 1.059	+ 72 17		3.20	
2066	φ Sagittarii		18 36 54.55	1	+ 3.748	− 27 8		3.21	
2067	O. Arg. S. 18623 . . .	7.0	18 36 57.11	2	3.582	21 8 22.7	1	3.22	
2068	O. Arg. S. 18625 . . .	7.6	18 36 57.57	1	+ 3.573	− 20 47 10.5	1	3.22	
2069	Anonymous	7.5	18 38 23.39	1	− 1.046	+ 72 15		3.34	
2070	Lacaille 7854	7.5	18 38 38		+ 4.168	− 39 44 58.6	1	3.37	
2071	B. A. C. 6382	7.8	18 38 47.54	3	3.785	28 25 32.3	2	3.38	
2072	5 Aquilæ, (1st *)		18 39 14.80	1	3.097	1 6		3.42	
2073	5 Aquilæ, (2d *)		18 39 15.62	1	3.097	1 6		3.42	
2074	Lalande 34860	7.2	18 39 58.79	1	3.535	19 23		3.48	
2075	Anonymous	10.0	18 41 8.25	1	+ 3.214	− 6 9		+ 3.58	

Number.		Name.	Magnitude.	Right ascensions, 1860.0.			No. of obs.	Precession.	Declinations, 1860.0.			No. of obs.	Precession.	Remarks.
				h.	m.	s.		s.	°	′	″		″	
2076		Dorpat 2391	7.0	18	41	9.49	2	+ 3.214	− 6	9			+ 3.58	
2077		Lalande 34916	7.1	18	41	21.15	2	3.532	19	17	44.8	2	3.60	
2078	29	Sagittarii		18	41	21.61	1	3.563	20	29			3.60	
2079		Lacaille 7873	8.0:	18	41	30		4.150	39	19	55.3	2	3.61	
2080		Anonymous		18	41	39.67	1	3.532	19	18			3.62	
2081		B. A. C. 6403	7.0	18	41	57.24	2	3.866	31	7			3.65	
2082		Anonymous	8.5	18	41	59.28	1	3.862	30	52			3.65	
2083		B. A. C. 6414	6.5	18	43	42.19	8	3.858	− 30	54			3.80	
2084	β	Lyræ		18	44	54.68	7	2.214	+ 33	12	8.6	4	3.90	
2085	β	Lyræ, (comes)		18	44	55		2.214	+ 33	11	29.7	1	3.90	
2086		Weisse 1143	9.0	18	45	28.67	1	3.247	− 7	37			3.95	
2087	33	Sagittarii	6.0	18	45	37.95	1	3.589	21	31			3.97	
2088	ν¹	Sagittarii	4.5	18	45	42.86	1	3.626	22	54	46.3	2	3.97	
2089		Anonymous	8.0	18	45	48		3.624	22	51	18.6	1	3.98	
2090	σ	Sagittarii		18	46	34.99	7	3.724	26	28			4.05	
2091		Anonymous		18	46	38.86	2	3.244	7	30			4.05	
2092	ν²	Sagittarii	6.0	18	46	39.26	2	3.623	22	50	30.6	1	4.05	
2093		Anonymous		18	47	8		4.158	39	40	57.4	1	4.10	
2094		Weisse 1219	9.5	18	48	24.35	1	3.292	− 9	34			4.20	
2095	θ	Serpentis, (1st *)		18	49	15.54	1	2.981	+ 4	1			4.28	
2096	θ	Serpentis, (2d *)		18	49	17.10	1	2.981	+ 4	1			4.28	
2097		Anonymous	6.6	18	49	21.81	3	3.531	− 19	21			4.29	
2098	ξ²	Sagittarii		18	49	22.63	2	3.581	21	17			4.29	
2099		O. Arg. S. 18883	8.5	18	49	23.40	1	3.794	28	56			4.29	
2100		Lacaille 7932		18	49	33		3.157	− 39	43	1.4	1	4.30	
2101		Rumker 6881	7.3	18	50	41.83	1	+ 2.566	+ 21	12			4.40	
2102	50	Draconis		18	50	52		− 1.888	+ 75	16	2.5	4	4.41	
		S. P.	4.7								0.5	4	4.41	
2103		O. Arg. S. 18916	8.0	18	51	12.49	3	+ 3.599	− 22	1			4.44	
2104		O. Arg. S. 18915	8.5	18	51	13.65	1	3.791	28	53			4.44	
2105		Weisse 1294	8.2	18	51	27.98	1	3.282	9	9			4.47	
2106		O. Arg. S. 18939	8.7	18	52	15.83	2	3.791	28	54			4.53	
2107		Dorpat 2425, (Sd.)		18	52	57.45	2	3.262	8	18			4.59	
2108		Dorpat 2425, (Nd.)		18	52	57.50	2	3.262	8	18			4.59	
2109		B. A. C. 6485	6.7	18	53	11.18	1	3.621	22	53			4.61	
2110	ζ	Sagittarii	3.0	18	53	41.99	1	3.825	30	4	33.5	1	4.65	
2111		Lacaille 7962	7.0	18	53	46		4.105	38	27	0.3	1	4.66	
2112		Lalande 35468	7.5	18	54	0.23	1	3.471	17	3			4.68	
2113		Lalande 35497	6.5	18	54	49.95	4	3.533	19	27			4.75	
2114		Weisse 1398	9.0	18	55	29.27	2	3.243	7	32			4.81	
2115		Dorpat 2437, (1st *)	8.2	18	55	31.76	3	3.094	0	59			4.81	
2116		Dorpat 2437, (2d *)	8.4	18	55	32.92	2	3.094	0	59			4.81	
2117		O. Arg. S. 19007	8.2	18	55	50.91	2	3.548	21	0			4.84	
2118		Weisse 1412	8.7	18	55	55.35	2	2.244	7	34			4.85	
2119		B. A. C. 6505	6.5	18	56	9.80	1	3.689	25	27			4.87	
2120		Anonymous	7.5	18	58	4.24	1	3.634	23	28			5.03	
2121		B. A. C. 6525	5.5	18	58	41.71	2	3.633	− 23	28			5.08	
2122	ζ	Aquilæ		18	58	58.50	7	2.758	+ 13	39	32.6:	1	5.10	
2123		B. A. C. 6531		18	59	16.93	1	3.700	− 25	55			5.13	
2124		Dorpat 2447		18	59	20.27	3	3.109	1	38			5.13	
2125		Anonymous	9.5	18	59	37.26	1	3.273	8	51			5.16	
2126		B. A. C. 6533	6.0	18	59	41.20	1	3.671	24	52			5.16	
2127		O. Arg. S. 19120	6.3	19	0	16.76	3	3.631	23	24			5.21	
2128		Lalande 35791		19	0	41.70	1	3.106	1	30			5.25	
2129		B. A. C. 6546	7.6	19	1	1.15	1	3.739	27	20			5.28	
2130		O. Arg. S. 19143	8.0	19	1	6.96	1	3.630	23	25			5.28	
2131	π	Sagittarii		19	1	26.17	1	3.573	23	24			5.31	
2132		B. A. C. 6549	6.5	19	1	32.49	2	3.823	21	15			5.32	
2133		Anonymous	7.5	19	3	39.57	1	3.254	8	3			5.50	
2134		Anonymous	8.0	19	4	30.73	1	3.256	8	10			5.57	
2135	20	Aquilæ		19	5	5.01	4	3.256	8	10			5.62	
2136		B. A. C. 6568	6.5	19	5	43.05	2	3.814	30	4			5.67	
2137		Anonymous	10.0	19	6	14.55	1	3.265	8	33			5.71	
2138		Anonymous		10	6	29.18	1	3.595	22	11			5.74	
2139		Lacaille 8045	8.5	19	6	40		3.929	33	46	5.8	1	5.75	
2140		B. A. C. 6577		19	7	17.77	1	+ 3.833	− 30	42			+ 5.80	

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			h. m. s.		s.	° ′ ″		″	
2141	O. Arg. S. 19314	7.6	19 8 0.59	3	+ 3.778	− 28 55		+ 5.86	
2142	Weisse 224	7.5	19 10 7.39	1	3.054	+ 0 49		6.04	
2143	Lalande 36252	8.0	19 10 31.53	1	3.596	− 22 22		6.07	
2144	Anonymous	7.2	19 10 49.30	2	3.634	− 23 49		6.10	
2145	ω Aquilæ		19 11 14.66	7	2.816	+ 11 21		6.13	
2146	Dorpat 2492	5.7	19 11 25.08	1	3.053	+ 0 50		6.15	
2147	B. A. C. 6604		19 12 10.79	1	3.650	− 24 28		6.21	
2148	B. A. C. 6607	6.5	19 12 14.60	1	3.603	− 22 39 31.6	1	6.22	
2149	δ Draconis		19 12 31		0.017	+ 67 24 56.9	2	6.24	
	S. P.					55.7	1	6.24	
2150	Anonymous		19 12 35		3.301	− 10 12 49.3	1	6.25	
2151	Dorpat 2497, (1st *)	7.0	19 13 7.55	2	2.953	+ 5 20		6.29	
2152	Dorpat 2497, (2d *)	6.8	19 13 7.58	2	2.953	+ 5 20		6.29	
2153	O. Arg. S. 19459	7.8	19 14 52.18	1	3.772	− 28 56		6.44	
2154	O. Arg. S. 19465	8.0	19 14 59.91	1	3.772	28 56		6.45	
2155	B. A. C. 6627		19 15 38.27	1	3.834	31 4		6.50	
2156	Anonymous	8.4	19 16 7.59	2	3.620	[illegible] 23 26 27.6	1	6.54	
2157	Anonymous	6.0	19 16 9.34	1	3.253	8 9		6.54	
2158	Anonymous		19 16 40.46	1	3.616	23 18		6.58	
2159	Anonymous	8.5	19 17 14.17	2	3.619	23 26		6.63	
2160	B. A. C. 6639	5.8	19 18 5.36	2	3.800	− 30 1		6.70	
2161	δ Aquilæ		19 18 26.34	8	3.010	+ 2 51 20.5	2	6.73	
2162	Weisse 438	7.4	19 18 33.58	1	3.136	+ 2 54		6.74	
2163	O. Arg. S. 19587	8.5	19 20 13.58	1	3.689	− 26 11		6.88	
2164	Lacaille 8120	6.6	19 21 13.62	2	3.867	32 27		6.96	
2165	Anonymous		19 23 15		3.612	23 23 17.8	1	7.11	
2166	B. A. C. 6677	7.6	19 23 19.11	1	3.750	28 30 11.3	1	7.13	
2167	O. Arg. S. 19674	7.0	19 24 1.14	1	3.603	23 2		7.19	
2168	B. A. C. 6684	6.7	19 24 10.74	2	3.811	30 39		7.20	
2169	O. Arg. S. 19685	9.0	19 24 23.17	2	3.717	27 25		7.22	
2170	Anonymous		19 25 7.18	1	3.719	27 27		7.28	
2171	O. Arg. S. 19708	8.5	19 25 45.51	4	3.715	27 27		7.33	
2172	O. Arg. S. 19713	9.0	19 25 53.44	2	3.715	27 27		7.34	
2173	O. Arg. S. 19715		19 25 57		3.522	19 52 7.9	2	7.35	
2174	Lacaille 8152	7.0	19 26 8.33	1	3.849	32 0		7.36	
2175	O. Arg. S. 19732		19 27 5		3.521	− 19 52 52.2	1	7.44	
2176	μ Aquilæ		19 27 15		2.918	+ 7 5 4.9	2	7.45	
2177	Weisse 692	8.5	19 28 6.66	1	3.305	− 10 40		7.52	
2178	9 Vulpeculæ	6.7	19 28 23		2.634	+ 19 28 12.6	1	7.54	
2179	Weisse 719	8.3	19 29 5.76	2	2.307	− 10 45		7.60	
2180	Weisse 722	6.5	19 29 9.29	1	2.301	10 28		7.61	
2181	κ Aquilæ		19 29 21.45	8	3.231	7 20 7.7	2	7.62	
2182	e^1 Sagittarii		19 32 42		3.439	16 36 37.8	1	7.89	
2183	Lacaille 8186	6.7:	19 32 54		3.996	36 57 11.5	1	7.91	
2184	Anonymous	9.0	19 33 33.90	1	3.632	24 33		7.96	
2185	O. Arg. S. 19879	7.5	19 34 9.08	3	3.626	24 20 9.3	1	8.01	
2186	e^2 Sagittarii		19 34 30.48	2	3.434	− 16 27		8.04	
2187	Anonymous		19 35 54.55	1	3.244	+ 8 2		8.15	
2188	Dorpat 2562, (1st *)	9.0	19 35 58.04	2	2.899	8 3		8.15	
2189	Dorpat 2562, (2d *)	8.0	19 35 59.91	2	2.899	+ 8 3		8.16	
2190	Anonymous	7.0	19 36 10.16	2	3.595	− 23 11 9.5	1	8.17	
2191	O. Arg. S. 19909	7.5	19 36 16.71	3	3.605	23 35 38.7	2	8.18	
2192	f Sagittarii		19 38 11.47	2	3.517	− 20 5 38.4	1	8.33	
2193	Anonymous	9.0	19 39 19.65	1	2.948	+ 4 40		8.42	
2194	γ Aquilæ		19 39 36.23	8	2.852	+ 16 16 29.8	1	8.44	
2195	Lacaille 8231		19 40 14		4.022	− 38 7 17.5	2	8.49	
2196	O. Arg. N. 19614		19 41 45.82	1	1.127	+ 58 10		8.62	
2197	(* 119) W.	9.2	19 41 52.38	1	1.153	58 25		8.62	
2198	α Aquilæ		19 43 57.10	17	2.892	+ 8 30 7.8	5	8.79	
2199	O. Arg. S. 20030	7.5	19 44 28.20	2	3.590	− 23 30 40.5	1	8.83	
2200	B. A. C. 6814	6.5	19 45 54.29	1	3.612	24 17 9.5	1	8.94	
2201	57 Aquilæ, (1st *)	5.0	19 47 2.80	1	3.252	8 35		9.03	
2202	57 Aquilæ, (2d *)	5.5	19 47 3.15	1	3.252	8 35		9.03	
2203	B. A. C. 6829		19 47 59.95	1	3.786	− 30 56		9.10	
2204	β Aquilæ		19 48 26.19	4	2.945	+ 6 3 34.1	4	9.14	
2205	O. Arg. S. 20086	8.5	19 48 37.73	1	+ 3.638	+ 25 27		+ 9.15	

Number.	Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860. 0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
2206	ε Draconis		19 48 38		— 0.181	+ 69 54 42.2	2	+ 9.15	
2207	O. Arg. S. 20095 . . .	8.3	19 48 49.73	1	+ 3.637	— 25 25		9.17	
2208	Dorpat 2601	9.0	19 49 46.15	1	3.040	+ 1 33		9.24	
2209	g Sagittarii	5.2	19 49 59		3.409	— 15 51 34.7	3	9.26	
2210	B. A. C. 6841		19 50 7.51	2	3.782	— 30 55		9.27	
2211	Anonymous	8.0	19 53 8.56	2	2.937	+ 6 32		9.27	
2212	Weisse 1319 . . .		19 53 14		3.372	— 14 19 17.7	3	9.28	
2213	Dorpat 2612, (1st *) . .	8.0	19 54 32.21	2	2.938	+ 6 32		9.61	
2214	Dorpat 2612, (2d *) . .	9.2	19 54 34.14	2	2.938	6 32		9.61	
2215	Dorpat 2613, (1st *) . .	8.0	19 54 45.93	3	2.858	10 20		9.63	
2216	Dorpat 2613 ,(2d *) . .	8.3	19 54 46.00	3	2.858	+ 10 20		9.63	
2217	Lacaille 8325	7.0	19 55 27		3.568	— 22 57 6.1	2	9.68	
2218	Weisse 1394	7.2	19 55 30.31	2	2.858	+ 10 21		9.69	
2219	Dorpat 2615	7.0	19 56 7.06	1	2.908	+ 7 59		9.73	
2220	O. Arg. S. 20246 . . .	7.6	19 59 18.21	1	3.595	— 24 16 53.1	1	9.97	
2221	Anonymous	9.0	19 59 42.86	1	3.456	18 19		10.00	
2222	Weisse 1512	7.5	20 0 43.74	1	3.374	14 39 26.1	2	10.08	
2223	Anonymous	7.2	20 3 39.85	2	+ 3.362	— 14 11		10.30	
2224	λ Ursæ Minoris		20 3 54		—56.111	+ 88 53 25.4	7	10.32	
	S. P. . .					24.0	3	10.32	
2225	Weisse 81	7.8	20 4 57.45	3	+ 3.361	— 14 12 22.7	1	10.40	
						14 4			
2226	Weisse 122	8.5	20 6 19.66	1	3.357			10.50	
2227	O. Arg. S. 20337 . . .	8.5	20 6 41		3.393	— 15 45 18.0	1	10.53	
2228	b^3 Cygni		20 9 18		3.426	+ 36 22 46.7	3	10.72	
2229	O. Arg. S. 20370 . . .	9.0	20 9 44.45	1	3.609	— 25 27		10.76	
2230	α^1 Capricorni		20 9 53		3.331	— 12 56 16.7	4	10.77	
2231	33 Cygni		20 10 8		1.392	+ 56 7 51.0	1	10.79	
2232	α^2 Capricorni		20 10 17.00	9	1.332	— 12 58 32.6	8	10.80	
2233	O. Arg. S. 20393 . . .	9.0	20 11 20.81	1	3.598	25 6		10.87	
2234	B. A. C. 6992	6.5:	20 12 54.35	1	3.376	15 13 22.7	1	10.99	
2235	O. Arg. S. 20423 . . .		20 12 58		3.420	17 6 2.0	1	10.99	
2236	β Capricorni		20 13 8.59	1	+ 3.376	— 15 13 12.9	1	11.01	
2237	κ Cephei. S. P.	4.0	20 13 32		— 1.877	+ 77 17 14.9	2	11.04	
2238	Lacaille 8418	6.5	20 13 59.31	1	+ 3.877	— 35 49		11.07	
2239	Anonymous		20 14 12		3.809	33 29 31.7	1	11.08	
2240	O. Arg. S. 20443 . . .	8.5	20 14 23.23	1	3.540	— 22 47 15.4	1	11.10	
2241	Lalande 38208	7.0	20 16 7.09	1	2.900	+ 8 50		11.22	
2242	Anonymous	8.8	20 17 22.28	1	3.524	— 22 15		11.31	
2243	B. A. C. 7034	7.3	20 19 36		3.608	26 3 54.7	2	11.48	
2244	Anonymous	9.3	20 19 52		3.863	35 49 21.6	1	11.49	
2245	B. A. C. 7039	7.5	20 20 10		3.573	24 37 7.3	1	11.52	
2246	B. A. C. 7040 . . .	7.0	20 20 25.92	1	3.569	24 26 29.7	1	11.53	
2247	ρ Capricorni	7.0	20 20 52.27	6	3.433	18 16		11.57	
2248	B. A. C. 7049		20 21 20		3.532	22 51 8.8	1	11.60	
2249	O. Arg. S. 20544 . . .		20 21 24		3.542	— 23 18 28.1	1	11.60	
2250	ω^1 Cygni		20 22 45		1.826	+ 48 55 13.0	1	11.70	
2251	B. A. C. 7079, (1st *) S. .	8.0	20 24 31		3.278	10 47 28.3	2	11.82	
2252	B. A. C. 7079, (2d *) N. .	8.0	20 24 31		3.278	+ 10 47 32.1	2	11.82	
2253	Anonymous	9.2	20 25 25.90	1	3.501	— 21 44		11.89	
2254	ω^2 Cygni	4.8	20 25 41		1.857	+ 48 28 57.2	2	11.91	
2255	Lacaille 8492	7.3	20 26 8		3.716	— 30 56 56.6	1	11.94	
2256	ε Delphini	6.0	20 26 31.46	3	2.867	+ 10 49 48.5	2	11.97	
2257	B. A. C. 7111		20 29 32		3.521	— 22 55 38.3	1	12.18	
2258	Weisse 743		20 29 38.07	1	3.026	+ 2 0		12.18	
2259	B. A. C. 7113	6.8	20 29 47.49	3	3.561	— 24 42 47.1	1	12.19	
2260	Anonymous	8.0	20 30 23		+ 3.777	— 33 38 48.2	1	12.24	
2261	B. A. C. 7124 . . .		20 30 35		— 0.198	+ 72 3 25.6	2	12.25	
	S. P. .					24.1	2	12.25	
2262	Lacaille 8513	8.0	20 31 23		+ 3.847	— 36 17 18.0	1	12.31	
2263	τ^2 Capricorni	6.0:	20 31 24		3.364	15 26 35.3	1	12.31	
2264	Lacaille 8517	6.0	20 51 32.28	1	3.782	33 56		12.32	
2265	B. A. C. 7147 . . .	6.5	20 33 2.52	1	3.595	26 29 34.1	2	12.42	
2266	B. A. C. 7148	7.0	20 33 5.00	1	3.641	28 28		12.42	
2267	Lacaille 8537	7.5	20 34 45		3.673	29 54 53.6	2	12.54	
2268	O. Arg. S. 20765 . . .	9.0	20 35 16.39	1	3.562	— 25 12		12.57	
2269	Weisse 905		20 35 41.83	2	3.027	+ 2 30		12.60	
2270	Lacaille 8540	7.5	20 35 47		+ 3.837	— 36 19 48.6	1	+ 12.61	

Number.	Name.	Magnitude.	Right ascensions, 1860.0.	No. of obs.	Precession.	Declinations, 1860.0.	No. of obs.	Precession.	Remarks.
			h. m. s.		s.	° ′ ″		″	
2271	α Cygni		20 36 39.58	5	+ 2.043	+ 44 46 53.5	6	+ 12.67	
2272	Lacaille 8546	6.5	20 36 48.72	2	3.694	− 30 59		12.68	
2273	B. A. C. 7180	7.7	20 38 3.19	2	3.538	24 19		12.76	
2274	B. A. C. 7181	7.0	20 38 3		3.606	27 22 29.2	2	12.76	
2275	O. Arg. S. 20819	7.5	20 38 6		3.536	24 13 49.3	1	12.76	
2276	O. Arg. S. 20827	7.8	20 38 14.53	1	3.562	25 25		12.77	
2277	Anonymous	7.5	20 38 51		3.624	28 12 26.0	1	12.81	
2278	Anonymous	8.0	20 39 27		3.624	28 15 41.7	1	12.85	
2279	ε Aquarii	6.5	20 40 5		3.253	10 0 20.2	2	12.90	
2280	Lacaille 8574	7.0	20 40 43.91	1	3.679	30 42		12.94	
2281	B. A. C. 7205	6.0:	20 40 58		3.576	− 26 17 41.9	2	12.96	
2282	Weisse 1057	6.7	20 41 22.59	2	3.016	+ 3 8		12.98	
2283	Lacaille 8585		20 42 0.81	1	3.713	− 32 15		13.03	
2284	η Cephei		20 42 26		1.219	+ 61 17 50.2	2	13.05	
2285	Lacaille 8608		20 44 34		3.702	− 32 2 12.7	1	13.20	
2286	μ Aquarii		20 45 5.98	7	3.240	9 30 21.5	2	13.23	
2287	Lacaille 8616	6.8	20 45 42		3.615	28 27 3.8	2	13.27	
2288	B. A. C. 7244	7.1	20 45 47.46	2	3.535	24 48 21.1	1	13.28	
2289	O. Arg. S. 20951	8.0:	20 47 6		3.354	− 15 48 42.5	1	13.36	
2290	57 Cygni		20 48 18		2.118	+ 43 51 30.9	1	13.44	
2291	32 Vulpeculæ		20 48 35.49	1	2.555	+ 27 32		13.46	
2292	20 Capricorni	7.0	20 51 38.46	1	3.420	− 19 34		13.66	
2293	ν Cygni	5.5	20 51 57		+ 2.233	+ 40 37 47.9	1	13.68	
2294	76 Draconis	6.0:	20 52 29		− 3.882	+ 82 0 35.2	1	13.71	
	S. P.					34.3	2	13.71	
2295	Anonymous		20 52 29		− 3.774	− 35 43 31.8	1	13.71	
2296	Lacaille 8642	6.7	20 52 47.99	1	+ 3.715	− 33 26		13.73	
2297	B. A. C. 7290		20 53 16		2.135	+ 43 55 41.4	2	13.76	
2298	Radcliffe 5050		20 53 22		+ 2.137	+ 43 52 23.8	2	13.77	
2299	B. A. C. 7299, S. P.		20 53 49		− 2.448	− 80 1 29.8	3	13.79	
2300	O. Arg. S. 21046	9.0	20 54 0.30	1	+ 3.421	19 47		13.81	
3301	Lacaille 8658	8.0	20 54 31.24	1	3.623	29 39 30.9	1	13.84	
2302	O. Arg. S. 21053	7.6	20 54 47.45	3	3.420	19 47 47.7	2	13.85	
2303	B. A. C. 7312	8.0	20 56 59		3.378	17 42 59.5	1	13.99	
2304	Lacaille 8681	6.3	20 57 41.62	1	3.745	35 11		14.04	
2305	θ Capricorni	5.0	20 58 4		3.378	17 47 11.0	1	14.06	
2306	Lacaille 8691		20 59 4.03	1	3.574	27 51		14.12	
2307	Lacaille 8693		20 59 50.92	1	3.806	37 48		14.17	
2308	O. Arg. S. 21129		20 59 52		3.471	22 53 41.0	1	14.17	
2309	O. Arg. S. 21148	9.1	21 0 43.32	1	3.481	23 29 32.0	1	14.23	
2310	B. A. C. 7340	6.7	21 1 3.91	1	3.495	− 24 11		14.25	
2311	f^2 Cygni		21 1 46		2.063	+ 47 5 13.3	1	14.29	
2312	O. Arg. S. 21162	7.6	21 1 54.81	2	3.470	− 23 5 29.3	1	14.30	
2313	γ Aquarii		21 1 57.84	1	3.270	11 56		14.30	
2314	B. A. C. 7347	8.5	21 2 25		3.468	23 2 41.0	2	14.33	
2315	Lacaille 8722		21 4 3.34	1	3.755	36 20		14.43	
2316	3 Piscis Australis		21 4 58		3.567	28 11 15.9	1	14.48	
2317	B. A. C. 7359	6.7	21 5 8.89	1	3.511	36 20		14.49	
2318	Lacaille 8741	8.0	21 6 33		3.529	− 26 29 13.2	1	14.58	
2319	ζ Cygni		21 6 58.74	7	2.550	+ 29 39 16.3	6	14.60	
2320	Lacaille 8742	6.0	21 7 3.08	1	3.757	− 36 47		14.61	
2321	29 Capricorni	5.0	21 7 57		3.329	− 15 45 2.4	2	14.66	
2322	α Equulei		21 8 49		2.998	+ 4 40 16.3	2	14.72	
2323	O. Arg. S. 21283	8.5	21 10 34.60	2	3.535	− 27 12		14.82	
2324	O. Arg. S. 21290	8.6	21 10 51		3.447	22 37 20.3	2	14.84	
2325	Lacaille 8777	7.0	21 11 39		3.527	26 55 37.2	1	14.88	
2326	Lacaille 8787		21 13 31		3.580	29 45 26.8	1	14.99	
2327	ι Capricorni		21 14 26.76	1	3.350	17 26		15.05	
2328	Anonymous	8.7	21 14 44.75	2	3.451	23 13		15.06	
2329	Lacaille 8791	6.8	21 14 48.85	1	3.770	38 20		15.07	
2330	B. A. C. 7413	5.2	21 14 58.56	3	3.451	− 23 15 50.9	2	15.08	
2331	α Cephei		21 15 14		1.416	+ 61 59 36.0	5	15.09	
2332	1 Pegasi		21 15 36.62	1	2.766	+ 19 12		15.11	
2333	O. Arg. S. 21355	8.0	21 16 11.37	1	3.466	− 24 14		15.15	
2334	Lalande 41550	7.5	21 16 19.77	1	3.460	23 53		15.16	
2335	Anonymous	9.0	21 17 14.72	1	+ 3.458	− 23 53		+ 15.21	

Number.		Name.	Magnitude.	Right ascensions, 1860. 0.	No. of obs.	Precession.	Declinations, 1860, 0.	No. of obs.	Precession.	Remarks.
				h. m. s.		s.	° ′ ″		″	
2336		B. A. C. 7432	5.0	21 17 37.11	1	+ 3.762	— 38 26		+ 15.23	
2337		O. Arg. S. 21374	6.9	21 17 44.55	2	3.467	24 25		15.24	
2338		B. A. C. 7436	6.0	21 17 44.71	1	3.467	24 25		15.24	
2339		Anonymous		21 18 14		3.439	22 55 54.7	1	15.26	
2340	ζ	Capricorni	3.5:	21 18 40		3.439	23 0 54.7	2	15.29	
2341		Lacaille 8821	8.0	21 19 19		3.537	28 19 51.1	2	15.33	
2342	b	Capricorni	5.5	21 20 43		3.425	22 24 51.5	1	15.40	
2343		Lacaille 8823	6.7	21 20 47.41	1	3.758	38 42		15.41	
2344		Lacaille 8834	7.8	21 22 35		3.491	26 19 18.1	1	15.51	
2345		O. Arg. S. 21441	8.0	21 23 33		3.482	25 54 57.5	1	15.56	
2346		Lacaille 8839	7.5	21 23 46		3.483	26 1 34.4	2	15.57	
2347	β	Aquarii		21 24 11.19	5	3.163	6 11 4.9	1	15.60	
2348		Lacaille 8846	6.0	21 26 4.13	1	3.705	— 37 16		15.70	
2349	β	Cephei		21 26 50.32	15	0.802	+ 69 57		15.74	
		S. P.					+ 69 56 47.2	3	15.74	
2350		O. Arg. S. 21480	9.5	21 26 51		3.298	— 15 14 55.7	1	15.74	
2351		B. A. C. 7492		21 27 15.04	1	3.441	24 4		15.76	
2352	8	Piscis Australis	6.2	21 28 3		3.488	26 47 35.5	2	15.81	
2353		Anonymous	9.0	21 28 18.01	1	3.680	36 30		15.82	
2354	7	Piscis Australis	5.8	21 28 23		3.619	33 40 17.7	1	15.82	
2355		Lacaille 8854		21 28 24.56	1	3.679	36 29		15.83	
2356	ε	Capricorni		21 29 15		3.371	20 5 27.6	2	15.87	
2357	ξ	Aquarii		21 30 17.78	4	3.193	8 28		15.93	
2358		Anonymous	7.0	21 30 20.30	1	3.758	40 12		15.93	
2359		Lacaille 8870		21 30 58.14	1	3.501	27 54		15.96	
2360		Weisse 739	9.0	21 31 31		3.283	14 41 15.7	1	15.99	
2361		Lacaille 8873	5.8	21 32 1.09	1	3.638	35 8		16.02	
2362		Anonymous	7.7	21 33 18		3.593	33 9 45.2	2	16.09	
2363		Lacaille 8889	7.3	21 33 52		3.592	33 8 29.7	2	16.12	
2364		Lacaille 8887	7.0	21 33 53.00	1	3.706	38 33		16.12	
2365		Lacaille 8891		21 33 56.71	1	3.501	— 28 18		16.12	
2366	9	Cephei		21 34 9		1.612	+ 61 27 4.9	1	16.13	
2367		B. A. C. 7549		21 35 21.30	1	3.436	— 24 47		16.19	
2368		B. A. C. 7550	6.0	21 35 23.22	1	3.363	20 15		16.19	
2369		Lacaille 8896	5.8	21 35 51.75	1	3.713	39 10		16.22	
2370		O. Arg. S. 21596	9.4	21 36 12		3.339	18 49 11.5	2	16.24	
2371		Lacaille 8900	7.2	21 36 20.96	1	3.709	39 4		16.24	
2372	45	Capricorni	5.6	21 36 21		3.302	— 15 23 18.6	2	16.24	
2373	ε	Pegasi		21 37 18.58	15	2.945	+ 9 14 6.8	2	16.29	
2374		Lacaille 8907		21 37 20.99	1	3.500	— 28 45		16.29	
2375		O. Arg. S. 21629	9.0	21 38 53		3.335	18 47 53.8	2	16.37	
2376		Lacaille 8915	5.7	21 39 1.52	1	3.688	38 35		16.38	
2377	θ	Piscis Australis		21 39 30.52	1	3.544	— 31 32		16.40	
2378	11	Cephei		21 39 51.38	1	0.884	+ 70 40 3.7	2	16042	
		S. P.					2.5	2	16.42	
2379		O. Arg. S. 21645	7.7	21 39 57		3.334	— 18 51 32.7	2	16.43	
2380		Lacaille 8923	7.5	21 40 7		3.455	26 31 25.1	2	16.44	
2381		Lacaille 8934		21 41 51		3.476	28 2 58.1	1	16.52	
2382		Lacaille 8941		21 43 26.40	1	3.405	28 3		16.60	
2383		Lacaille 8947	8.8	21 44 27		3.468	27 58 10.8	2	16.65	
2384		O. Arg. S. 21710	8.3	21 45 15.59	1	3.339	19 48		16.69	
2385	γ	Gruis	3.0	21 45 26		3.651	38 1 17.2	2	16.70	
2386	μ	Capricorni		21 45 39.56	3	3.259	14 12 29.8	1	16.71	
2387		B. A. C. 7630	7.5	21 47 21		3.280	15 54 59.3	1	16.79	
2388		B. A. C. 7632		21 47 56		3.640	37 54 55.1	1	16.82	
2389	μ	Cephei	7.0	21 50 11		2.010	— 55 56 57.4	1	16.92	
2390	79	Draconis		21 51 7.59	1	0.735	+ 73 2		16.97	
		S. P.					+ 73 2 24.5	1	16.97	
2391		Lacaille 8981	7.2	21 51 26		3.478	— 29 43 24.7	1	16.98	
2392		Lacaille 8993	7.3:	21 53 11		3.555	34 30 12.2	2	17.06	
2393		B. A. C. 7665	6.9	21 54 29.12	1	3.306	18 34 23.4	2	17.12	
2394		Lacaille 9003		21 54 41		3.443	28 2 18.4	1	17.13	
2395	29	Aquarii, (1st *)		21 54 45		3.293	17 38 16.3	1	17.13	
2396	29	Aquarii, (2d *)		21 54 45		3.293	17 38 13.7	2	17.13	
2397		O. Arg. S. 21841	8.0	21 56 20		3.356	22 27 20.8	2	17.21	
2398	λ	Gruis	3.0:	21 57 38		3.647	40 13 3.6	1	17.27	
2399	α	Aquarii		21 58 35.49	4	3.084	0 59 54.9	2	17.31	
2400		B. A. C. 7702	5.0	22 0 13.61	1	+ 3.534	— 34 42		+ 17.38	

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			h. m. s.		s.	° ′ ″		″	
2401	O. Arg. S. 21912		22 0 32		+ 3.295	— 18 30 53.2	1	+ 17.39	
2402	O. Arg. N. 23385	9.0	23 0 53		2.193	+ 52 56 34.2	1	17.41	
2403	O. Arg. S. 21915	9.3	22 0 54:		3.345	— 22 22 20.0	1	17.41	
2404	36 Aquarii	7.1	22 2 2.44	1	3.175	— 8 52 19.5	2	17.46	
2405	O. Arg. N. 23452	6.5	22 2 16		2.212	+ 52 37 28.4	2	17.47	
2406	Lacaille 9047	7.0	22 3 40.71	1	3.598	— 39 1		17.53	
2407	39 Aquarii	6.5	22 4 52		3.243	14 52 53.0	2	17.58	
2408	B. A. C. 7745	5.3	22 5 51		3.382	— 25 52 19.9	2	17.62	
2409	ζ Cephei		22 6 0		2.070	+ 57 30 43.5	1	17.63	
2410	Anonymous	7.8	22 7 15.47	1	3.385	— 26 24		17.68	
2411	θ Aquarii		22 9 26.62	3	3.164	8 29		17.77	
2412	ρ Aquarii		22 12 49.70	1	3.162	8 31		17.90	
2413	γ Aquarii		22 14 25.44	1	3.094	2 5		17.96	
2414	Lacaille 9113	9.0	22 15 21		3.367	26 32 37.5	2	18.00	
2415	Weisse 331	8.5	22 16 40.51	1	3.195	11 54		18.05	
2416	Weisse 346	8.0	22 17 4.58	1	3.194	— 11 52		18.07	
2417	π Aquarii		22 18 7.57	2	3.065	+ 0 40		18.11	
2418	O. Arg. S. 22146	8.0	22 18 28		3.270	— 19 3 51.5	1	18.12	
2419	35 Pegasi	5.6	22 20 46.23	1	3.033	+ 3 59 40.9	1	18.21	
2420	ζ Aquarii, (1st *)		22 21 37.26	1	3.079	— 0 44		18.24	
2421	ζ Aquarii, (2d *)		22 21 37.41	1	3.079	0 44		18.24	
2422	56 Aquarii		22 22 47		3.222	15 17 59.9	1	18.28	
2423	Lacaille 9159	7.3	22 23 5.19	1	+ 3.411	— 31 46		18.29	
2424	B. A. C. 7851		22 23 57		— 3.698	+ 85 24 4.8	2	18.32	
	S. P.					4.0	2	18.32	
2425	O. Arg. S. 22237	8.3	22 27 5.20	1	+ 3.270	— 20 35		18.43	
2426	η Aquarii		22 28 9.69	2	3.080	0 50 16.4	2	18.47	
2427	σ^1 Gruis		22 28 17		3.529	41 18 16.0	3	18.47	
2428	B. A. C. 7872	7.0	22 28 41		3.401	32 23 9.0	2	18.48	
2429	Anonymous	8.0	22 28 45		3.401	32 21 54.8	2	18.49	
2430	σ^2 Gruis		22 28 55		3.527	41 18 47.2	3	18.49	
2431	κ Aquarii		22 30 30.23	1	3.116	4 56 54.3	2	18.55	
2432	O. Arg. S. 22291	8.2	22 30 36.52	1	3.340	27 46		18.55	
2433	ε Piscis Australis	5.0	22 32 54.11	1	3.333	— 27 46 20.3	1	18.62	
2434	ζ Pegasi	9.0	22 34 28.90	1	2.985	+ 10 6 6.4	4	18.68	
2435	12 Lacertæ		22 35 12		2.674	39 29 43.1	2	18.70	
2436	O. Arg. N. 24532	9.0	22 35 58		2.395	+ 54 39 20.8	2	18.72	
2437	O. Arg. S. 22373	9.1	22 36 46.76	1	3.314	— 27 1 30.5	1	18.75	
2438	g^2 Aquarii	6.0	22 40 1.45	1	3.241	20 20		18.85	
2439	Lacaille 9256	7.0	22 40 14		3.301	26 38 41.6	2	18.85	
2440	Lacaille 9269		22 41 40.89	1	3.270	— 23 50		18.90	
2441	B. A. C. 7953	6.5	22 41 49		2.363	+ 57 44 42.2	2	18.90	
2442	τ^2 Aquarii	6.0	22 42 10		3.186	— 14 19 48.0	1	18.91	
2443	ι Cephei		22 44 52		2.127	+ 65 27 53.6	2	18.99	
	S. P.					50.7	3	18.99	
2444	λ Aquarii		22 45 18.49	3	3.134	— 8 19 23.4	2	19.00	
2445	δ Aquarii		22 47 13.02	2	+ 3.196	— 16 34		19.05	
2446	B. A C. 7990, S.P.	4.4	22 47 55		— 0.033	+ 82 24 38.8	3	19.07	
2447	Lalande 44823	6.5	22 47 59.25	1	+ 3.230	— 20 53		19.07	
2448	α Piscis Australis		22 49 54.43	6	3.308	30 31 47.8	5	19.13	
2449	Anonymous	9.0	22 53 18.57	1	3.125	7 50		19.21	
2450	81 Aquarii	6.0	22 54 6.84	1	+ 3.124	— 7 49		19.23	
2451	B. A. C. 8026		22 55 23		— 0.243	+ 83 35 48.8	2	19.26	
2452	α Pegasi		22 57 47.37	15	+ 2.980	+ 14 27 9.6	4	19.32	
2453	Lalande 45137	6.6	22 57 48.01	2	3.187	— 17 50		19.32	
2454	59 Pegasi	6.0	23 4 40		3.027	+ 7 57 40.2	2	19.47	
2455	O. Arg. S. 22687		23 6 32		3.209	— 23 55 56.4	2	19.51	
2456	Anonymous	7.2	23 6 42.15	1	3.187	20 27		19.52	
2457	φ Aquarii		23 7 4.23	1	3.108	6 48		19.52	
2458	Lalande 45473	8.5	23 7 7.62	1	3.181	19 38		19.52	
2459	Lacaille 9425	7.2	23 9 0		3.202	23 59 14.5	1	19.56	
2460	Lalande 45545	9.0	23 9 16		3.158	16 19 30.8	2	19.57	
2461	O. Arg. S. 22723	6.0	23 9 22		3.190	— 21 57 53.7	1	19.57	
2462	γ Piscium		23 9 54.48	4	3.059	+ 2 31		19.58	
2463	Lacaille 9440	6.0	23 11 44.97	1	3.306	— 39 55		19.61	
2464	Anonymous		23 12 28		3.296	39 12 31.0	1	19.63	
2465	Lacaille 9447	8.5	23 12 36		+ 3.192	— 23 35 15.5	2	+ 19.63	

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			h. m. s.		s.	° ′ ″		″	
2466	Anonymous		23 12 57		+ 3.295	− 39 15 40.7	1	+ 19.63	
2467	O. Arg. S. 22766		23 13 2.98	1	3.175	20 47		19.64	
2468	Anonymous		23 13 11		3.260	34 39 48.6	1	19.64	
2469	97 Aquarii	6.0:	23 15 18		3.145	15 48 25.5	1	19.68	
2470	O. Arg. S. 22800	7.7	23 15 47.80	1	3.192	25 23		19.68	
2471	Anonymous	9.0	23 16 14		3.344	34 8 38.0	2	19.69	
2472	O. Arg. S. 22817	9.0	23 17 3.65	1	3.153	− 18 5		19.71	
2473	Radcliffe 6067	8.0	23 18 29.63	1	2.737	+ 54 19		19.73	
2474	Lalande 45892	7.0	23 19 38		3.139	− 16 0 58.0	1	19.75	
2475	κ Piscium		23 19 45.35	3	3.070	+ 0 29		19.75	
2476	9 Piscium	6.0	23 20 4		3.071	+ 0 21 14.6	2	19.75	
2477	Anonymous	6.8	23 20 9		3.280	− 34 23 39.5	3	19.75	
2478	B. A. C. 8172		23 20 28		3.241	36 18 52.5	1	19.76	
2479	O. Arg. S. 22851	7.0	23 20 37		3.138	− 16 4 7.3	1	19.76	
2480	Radcliffe 6081	8.0	23 20 39.64	1	2.757	+ 54 6		19.76	
2481	B. A. C. 8184	6.0	23 22 17.75	1	3.092	− 5 18		19.79	
2482	Anonymous		23 23 6		3.246	39 6 0.4	2	19.80	
2483	Lacaille 9508	6.5	23 24 32.84	1	3.175	26 31		19.82	
2484	O. Arg. S. 22897		23 25 45.85	1	3.148	20 52		19.83	
2485	Anonymous		23 27 9		3.227	39 2 23.2	2	19.85	
2486	O. Arg. S. 22911	8.0	23 27 17.64	2	3.133	17 46		19.85	
2487	Lacaille 9524	7.3	23 27 27		3.211	− 35 48 1.9	1	19.85	
2488	B. A. C. 8213	5.3	23 27 48.83	2	0.019	+ 86 32 7.5	3	19.86	
	S. P.	5.2				6.1	5	19.86	
2489	Weisse 613	9.0	23 30 5.17	1	3.078	− 1 49		19.89	
2490	ι Piscium		23 32 45.01	5	3.059	+ 4 52		19.91	
2491	γ Cephei S. P.	3.0	23 33 38		2.415	+ 76 51 4.5	4	19.92	
2492	A¹ Aquarii	6.3	23 34 18		3.123	− 18 48 1.3	1	19.93	
2493	O. Arg. S. 22993		23 34 28.76	1	3.128	− 20 32		19.93	
2494	τ Cassiopeiæ		23 40 13		2.889	+ 57 52 20.8	4	19.98	
	S. P.					19.4	3	19.98	
2495	δ Sculptoris		23 41 37.56	1	3.131	− 28 54		19.99	
2496	21 Piscium	6.0	23 42 17.31	1	3.071	+ 0 18		20.00	
2497	B. A. C. 8287	7.0	23 43 19.47	1	3.109	− 21 0 37.5	2	20.00	
2498	O. Arg. S. 23082	7.0	23 43 31		3.105	19 4 9.2	2	20.00	
2499	108 Aquarii	6.5	23 44 7		3.105	19 41 12.8	2	20.01	
2500	O. Arg. S. 23096	7.7	23 45 3		3.102	18 48 14.0	2	20.01	
2501	Lalande 46769	7.0	23 45 26.25	1	3.102	19 20 23.1	1	20.02	
2502	B. A. C. 8304	6.8	23 46 6.14	1	3.110	25 1		20.02	
2503	O. Arg. S. 23120	9.0	23 47 25.52	1	3.104	− 23 49		20.03	
2504	B. A. C. 8314		23 48 4		2.835	+ 73 37 53.5	4	20.03	
	S. P.	6.0				53.2	4	20.03	
2505	O. Arg. S. 23126	9.4	23 48 34.57	1	3.101	− 23 45		20.03	
2506	Lacaille 9663	6.5	23 50 23.93	1	3.110	33 58		20.04	
2507	Anonymous	9.0	23 51 30.71	1	3.091	− 20 47		20.04	
2508	ω Piscium		23 52 7.43	4	3.067	+ 6 15		20.04	
2509	O. Arg. S. 23166	7.5	23 52 11.92	1	3.089	− 20 48		20.04	
2510	O. Arg. S. 23176	8.6	23 52 54		3.086	18 47 32.2	3	20.05	
2511	29 Piscium		23 54 38		3.074	3 48 22.7	2	20.05	
2512	O. Arg. S 23204	6.7	23 55 45.95	2	3.081	20 49 41.0	2	20.05	
2513	Lacaille 9715	7.3	23 58 8		3.081	39 58 15.9	1	20.06	
2514	Lacaille 9722	7.0	23 59 5.05	1	3.075	33 35		20.06	
2515	Lacaille 9724	6.7	23 59 39.94	3	3.073	23 53		20.06	
2516	B. A. C. 8375	6.8	23 59 43		3.073	− 39 39 26.7	1	20.06	
2517	Weisse 1222	7.8	23 59 53.86	1	+ 3.072	+ 4 27		+ 20.06	

METEOROLOGICAL OBSERVATIONS

MADE AT THE

U. S. NAVAL OBSERVATORY

DURING THE

YEAR 1864.

INTRODUCTION.

The Meteorological Department was under the charge of Mr. J. R. Eastman, aid, until November 1, when Mr. J. A. Rogers, aid, was assigned to that duty. The observations are made at every third hour of the day and night, commencing with *3h. 0m.*, civil time, Washington.

Mr. Thomas Hays and Mr. Dennis Horrigan, watchmen, are the observers. Their instructions inculcate unfailing punctuality and the utmost carefulness in reading.

BAROMETERS.

A standard barometer, made by Mr. James Green, was mounted in the office of the Superintendent during March, 1862. Its cistern is six inches higher than that of the Newman barometer in the northwest room, with which the daily observations are made. Drawings of the instrument are given in the volume for 1862.

Two brackets projecting from a stout mahogany board hold pivots at the extremities of a strong, hollow cylinder of bronzed metal. The pivots are of steel. The upper one has a motion of revolution only, whilst the lower rests in a socket that may be moved laterally by three equidistant capstan-head screws, and thereby admits of adjustment for verticality. Just below the upper pivot, and also at seven inches above the lower one, there are collars, to each of which is secured, perpendicular to the axis of the cylinder, a strong and nearly similar arm of brass. Their purpose is to support the barometer tube and its measuring apparatus. Cylindrical apertures through these arms permit free passage of the measuring rod, the tube being held by collars at their semicircular extremities. The construction of the arms is such that the centres of the apertures for the measuring rod and the barometer tube are parallel with the axis of the large cylinder. A small spirit-level is fitted upon the lower arm perpendicular to that plane.

A third arm, for support of the cistern, is firmly secured to the cylinder by a collar just above the lower pivot. The cistern is an inverted bell glass, four inches in diameter. It is covered with a parallel plate of the same material, whose under surface and the rim of the bell have been ground smooth so as to prevent the passage of dust between them. There are two apertures in the cover, each of which is fitted with an ivory ferule cemented to the glass. The barometer tube passes freely, but not too loosely, through the larger and central one, and the extremity of the measuring apparatus is admitted through the smaller. The cistern is filled with mercury to within one-fourth of an inch of its rim. The external and internal diameters of the barometer tube are respectively 1.0 and 0.8 inch. The measuring apparatus for its mercurial column consists of a hollow brass cylinder 0.8 inch in diameter, having a slender ivory cone at its lower extremity, and a silvered divided scale at the upper. The apex of the former is brought into contact with the surface of the mercury in the cistern by a slow-motion screw that passes through a flange from the rod into the lower arm, which sustains it. The height of the column is read to 0.002 inch by means of the divided scale and a vernier moved by a milled head without and a rack and pinion within the hollow cylinder. Attached to the vernier, and freely movable on the tube with it, there is a cylindrical band that is perforated by oblong, horizontal slits in front and rear. The upper edges of these slits are in the same horizontal plane as 0 of the vernier, and the edge of the rear one is serrated. Rays of light passing through the teeth greatly assist the eye in placing these edges tangent to the convex surface of the mercury in the tube.

The attached thermometer is suspended between the main supporting shaft and the cylinder of the measuring apparatus. Its bulb is 7.5 inches long and 0.9 inch in diameter, and its scale is of silvered brass 6.5 inches long. The latter is divided to half degrees from 37° to 153° Fahrenheit, the length of each degree being 0.095 inch.

The advantages which Green's barometer has over those of Newman's pattern are—

1st. The mobility of the main supporting cylinder and its attached spirit-level permit speedy verification of verticality.

2d. The contact of the zero of the scale and its image can be observed with greater certainty.

3d. The serrated edge permits more accurate reading at the top of the column.

4th. The position of the attached thermometer affords greater probability that the temperature of its mercury and that of the barometer column will be similar.

Newman's barometer.—The barometer in daily use was made by Newman. Its cistern and tube are of glass. The internal diameter of the former is 3.0 inches, and of the latter 0.532 inch. The cap rests in a cylindrical box of bronzed metal five inches deep, the surface of the mercury being visible through slits in the top of the box. The upper end of the tube is held in the arch of a double metallic frame, which is secured in the cap of the box. Pivots at the bottom of the box and top of the arch rest in the sockets of heavy brackets that project from a substantial mahogany board. Three equidistant horizontal screws act against the pivot of the lower socket to effect the vertical adjustment of the tube. The scale by which the height of the mercury column is read is attached to a brass rod within one of the upright frames, and is movable by a slow-motion screw. It is silvered and divided to 0.05 inch, but by means of a vernier may be read to 0.002 inch. There is an ivory point at its lower extremity and within the cistern, and the scale is in adjustment for use when the point and its image are in apparent contact.

The temperature of the mercury within the cistern is shown by a small ivory scale thermometer, which is fitted within the other tube-sustaining frame, its bulb passing below the surface of the mercury. The divisions of the thermometric scale are to 1°, and are supposed to be correct. The instrument is placed between two north windows of the northwest room on the first floor of the building, its cistern 103 feet above mean half-tide of the Potomac river. The adjustments for verticality of the tube have not been changed during the year.

During the year 1864 nine series of comparisons were made with Green's standard by Mr. J. R. Eastman, assisted by Prof. Wm. Harkness and Mr. J. A. Rogers. The ivory point at the lower extremity of the measuring apparatus was readjusted at each reading. The observations of each series occupied about fifteen minutes, and the following transcript of the record for July 6 will indicate the method of observing:

Time.	Green's standard.	Attached therm.	Observer.	Newman's standard.	Attached therm.	Observer.
h. m.	in.	°		in.	°	
July 6, 11 15 a. m.	30.080	76.5	H.	30.072	75.5	E.
	.080		E.	.073		H.
	.080		H.	.070		E.
	.081		E.	.071		H.
	.080		H.	.068		E.
	.079		E.	.069		H.
	.078		H.	.068		E.
	.080		E.	.069		H.
	.077		H.	.069		E.
	30.080	77.0	E.	30.068	75.3	H.

The results, after applying the corrections for temperature and capillarity to each observation, are exhibited in the following table:

COMPARISON OF BAROMETERS, 1864.

Date.	Green's.	Newman's.	G. — N.
	in.	in.	in.
February 27	30.217	30.212	+ 0.005
April 1	29.717	29.714	.003
May 2	29.740	29.735	.005
May 31	29.967	29.964	.003
July 6	29.950	29.944	.006
August 1	29.873	29.866	.007
September 1	30.040	30.036	.004
October 8	29.613	29.607	.006
December 1	30.285	30.277	+ 0.008

It appears from the above table that all observations made with Newman's barometer must be increased by 0.005 inch; but as a large portion of the barometric tables had been prepared before this correction was determined, it has not been applied to the observations for 1864, but will be used in all subsequent reductions. The temperature corrections have been derived from Guyot's tables.*

METEOROLOGICAL OBSERVATORY.

In 1862 a small building for special protection of thermometers was erected about twenty yards southwest of the central edifice. It is constructed of wood, and painted white both inside and without. Its form is octagonal, each side being two feet five inches by six feet three inches high to the eaves. Its roof is of tin, left bright on the under side; the ceiling is of thick plank dovetailed together, and between it and the roof there is open space. The door is on the north side, and it, as well as the sides, is of double lattice-work, with a space of three inches between the inner and outer lattices. They terminate one foot above the ground, and as the building is on a grass-plat, instruments within it should indicate correct temperature. But as there is a dense growth of trees entirely surrounding the Observatory buildings, and the area, enclosed by trees and buildings within which the thermometers are suspended, does not exceed one acre in extent, it may be doubted whether our thermometers show true temperature either during calm and clear weather or high winds. In both cases the enclosed air becomes unduly heated.

THERMOMETERS.

There are four thermometers in the Meteorological Observatory, made specially for the Observatory by Mr. James Green, of New York.

Dry thermometer.—This is a mercurial thermometer, whose bulb is 1.5 inch in length and 0.2 inch in diameter. Its scale is of glass, twelve inches long, 0.8 inch wide, and 0.1 inch thick. The bulb projects about one inch beyond the scale. The divisions of the latter are engraved upon the glass to half degrees from —30° to +125° Fahrenheit. Each division is about 0.032 inch.

Wet thermometer.—This is similar to the preceding in materials, construction, and dimensions. Its scale extends from —35° to +115°. Its bulb is covered with fine linen, which is kept moist by the capillary action of a bundle of fibres that communicate with water in a bird-glass placed close beside it. The linen is changed from time to time when its free action appears to have been impaired by dust.

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* Tables, meteorological and physical, prepared for the Smithsonian Institution by Arnold Guyot, P. D., LL. D., Washington, 1859.

Maximum thermometer.—This differs from the instrument described only in the addition of a small register above the column of mercury, and in the extent of its scale. The register is of steel; and to obviate as far as possible the risk of entanglement from the action of mercury, a small porcelain disk is interposed between its extremity and the top of the column. The scale of this instrument extends from —32° to +163° Fahrenheit.

Minimum thermometer.—This is a transparent spirit thermometer, with bulb and tube of the same form, but somewhat greater dimensions than those of the other instruments. Its scale is of the same material and size, and is divided from —18° to +105°. Its registering index is a short piece of delicate steel wire enclosed in thin blue glass, with a knob at its outer extremity, or that farthest from the bulb, It floats freely in the spirit. The thermometers are suspended on metallic frames five feet from the ground, and near the centre of the building. The frames are attached to a short metallic support, firmly secured to the ground. Rods placed across the building prevent accidental disturbance of the thermometers, or too near approach of the person in reading. For night observations the lantern is placed on a slide, which permits vertical or rotary motion, so that its pencil of rays falls upon the top of the columns to be noted. The registering thermometers are in a horizontal position beside each other and above the other two instruments, which are also near and parallel. The former are read only at 6 p. m. daily, after which their indices are readjusted by means of a small magnet kept for that purpose within the building.

Solar thermometer.—This instrument also was specially made by Mr. Green. It is a mercurial thermometer, twelve inches long, with a blackened spherical bulb enclosed with its tube within a cylinder of glass of the same form as itself, but of about three times the diameter. Air has been exhausted from the cylinder, in the centre of which it is kept by cork collars, one of them being near each extremity. The tube is divided to constitute the scale, and is numbered to whole degrees from +5° to +173° Fahrenheit. The engraved marks are rendered distinct by a band of white porcelain at the back of the tube. Just above the bulb the tube is contracted, so that, with the tube in a horizontal position, expanding mercury passes freely; but at each decrease of temperature the column is broken there, and its summit marks the highest temperature since the previous adjustment.

The instrument rests in metallic crutches, three inches high, attached to a board sixteen by five inches, which is painted green and placed on the grass. The tube lies very nearly parallel with the surface of the ground, and for adjustment is raised to a vertical position after every observation.

INVESTIGATION OF ERRORS.

During the early part of 1862, and before the new thermometers were permanently placed for observation, a series of comparisons was made between them and the standard, whose errors were investigated by Mr. S. C. Walker.* In those comparisons the standard was placed near the centre of a board, with the new thermometers around and close to it, and their bulbs in contact with the board. The resulting errors of the new instruments for temperature below +50° are published in the introduction to the Meteorological Observations for 1862, page 665, and are pretty uniformly in excess of 1° for each of the instruments.

Afterwards the standard was suspended beside the other thermometers and comparisons noted at different temperatures during the year 1863. In these, the bulbs were not in contact with any substance. These comparisons† discredit all the early observations, but more especially those below +50°, which may have been affected by contact of the bulbs with the board.‡ The corrections derived from this series of comparisons are as follows:

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* Astronomical Observations made at the Observatory, Washington, in 1845, Appendix, page 54.

† Washington Astronomical Observations, 1863, page 435.

‡ Washington Astronomical Observations, 1863, page 434.

CORRECTIONS TO THERMOMETERS.

Temp.	Dry.	Max.	Min.	Temp.	Dry.	Max.	Min.
°	°	°	°	°	°	°	°
24	— 0.2	+ 0.2	— 0.1	60	+ 0.1	0.0	+ 0.2
25	.1	.2	.1	61	.1	.0	.2
26	.0	.1	.1	62	.1	+ .1	.3
27	.0	.1	.0	63	.1	.1	.3
28	.0	.1	.0	64	.1	.1	.4
29	.0	.1	.0	65	.2	.1	.4
30	.0	.1	.0	66	.2	.0	.4
31	.0	.2	.0	67	.2	.0	.4
32	+ .1	.2	+ .1	68	.2	.0	.2
33	.1	.3	.1	69	.2	.0	.1
34	.1	.2	.0	70	.2	.1	.0
35	.1	.2	.0	71	.2	.2	— .1
36	.1	.1	.0	72	.1	.4	— .1
37	.1	.1	.1	73	.0	.3	+ .1
38	.1	.2	.1	74	.0	.1	.2
39	.2	.3	.2	75	.0	.0	.2
40	.2	.5	+ .5	76	.1	.0	.2
41	.0	.1	— .2	77	.1	.0	.2
42	— .2	.1	— .2	78	.2	.1	.3
43	.3	.1	+ .1	79	.6	.2	.4
44	.1	.1	.2	80	.1	.0	.2
45	.0	.2	.3	81	.1	.2	.2
46	+ .1	.2	.2	82	.1	.2	.2
47	.2	.2	.2	83	.1	+ .1	.2
48	.2	+ .2	+ .3	84	.2	— .2	.3
49	.2	— .1	— .1	85	+ .3	— .2	.4
50	.0	— .1	— .2	86	— .1	+ .2	.4
51	.0	+ .3	+ .2	87	.2	.4	.4
52	.0	.3	.2	88	.0	.5	.3
53	.0	.3	.2	89	+ .2	.3	.2
54	.0	.3	.2	90	.1	.1	.1
55	.0	.2	.2	91	.2	.0	.2
56	.0	+ .1	.1	92	.3	.2	.3
57	.1	.0	.1	93	.2	.3	.3
58	.1	— .1	.1	94	+ 0.1	+ 0.2	+ 0.2
59	+ 0.1	— 0.1	+ 0.1				

No comparisons were made in 1864. These are the best results attainable from data yet collected, but as they are not regarded as entirely conclusive, they have not been applied to the tri-hourly observations.

DIRECTION AND FORCE OF THE WIND.

A vane revolves freely on a spindle at the top of the time-ball staff, and the point of the compass to which it is directed is estimated from the known azimuths of the lines of the building. A close approximation to the truth is arrived at during daylight; but at night, and especially on cloudy ones, when the vane is not visible as a guide, the recorded directions are probably no more reliable than as rough guesses.

The velocity of the atmospheric current is stated in numerals, of which 0 denotes a calm, 1 a very light breeze, and so on to 10, a violent gale. These numbers, under the head "Force," are mere estimates, and, at best, are only approximative.

CLOUDS.

In the description of the prevailing forms of clouds, the nomenclature of Howard is used; C., K., S., N., being symbols for the forms which he denominates *cirrus*, *cumulus*, *stratus*, *nimbus*, and the double letters C. S., C. K., &c., their combinations, to indicate *cirro-stratus*, *ciro-cumulus*, &c. The portion of the sky obscured is simply a naked-eye estimate from careful scrutiny of the whole hemisphere. A clear sky is denoted by 0, and total obscuration by 10

RAIN-GAUGE.

This instrument is placed within the enlosure for the solar thermometer to the southwest of the main building. It is a cylinder, 4.1 inches in diameter, soldered to an inverted cone, which is loaded with lead on the outside and near the apex. The cone rests in an aperture of a box whose top is horizontal, and this aided by the lead, prevents disturbance during violent winds. The top of the gauge is 2.0 feet above the ground, and it is free from all shelter during driving rains. There is an aperture at the apex of the cone, through which, as it descends, the rain-water passes to a receiving bottle within the box, and the water thus collected is measured in a graduated glass cylinder with an internal diameter of 0.60 inch. It was measured at least once in each day, and as the apex of the cone closes the mouth of the bottle, except through the small aperture, there is little or no loss by evaporation. Each inch of snow is assumed equivalent to 0.111 inch of rain.

The transcripts from the journal and computations of results were made by Mr. J. R. Eastman, aid. This officer made daily scrutiny of the journal during the year, as well for the detection of inaccuracies as for the omission of subjects proper for entry, and before the circumstances of the observation could have been forgotten by the observer.

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
January 1	29.460	29.428	29.387	29.476	29.533	29.641	29.871	29.990
2	30.119	30.159	30.223	30.340	30.329	30.313	30.358	30.390
3	30.381	30.389	30.376	30.358	30.296	30.227	30.219	30.187
4	30.154	30.129	30.141	30.170	30.131	30.111	30.103	30.099
5	30.053	29.989	29.849	29.821	29.781	29.842	30.020	30.140
6	30.181	30.227	30.262	30.306	30.292	30.274	30.303	30.339
7	30.395	30.436	30.453	30.485	30.415	30.344	30.293	30.221
8	30.139	30.061	30.016	30.041	30.004	29.977	30.005	30.029
9	30.033	30.053	30.087	30.143	30.148	30.151	30.169	30.161
10	30.166	30.140	30.139	30.173	30.139	30.053	30.072	30.074
11	30.073	30.056	30.051	30.050	29.977	29.920	29.910	29.943
12	29.942	29.949	29.936	29.978	29.917	...	29.878	29.841
13	29.791	29.761	29.741	29.770	29.734	29.739	29.790	29.833
14	29.819	29.837	29.861	29.931	29.909	29.879	29.893	29.916
15	29.883	29.831	29.773	29.765	29.727	29.734	29.824	29.909
16	29.950	30.033	30.086	30.184	30.210	30.239	30.279	30.332
17	30.313	30.328	30.338	30.331	30.284	30.234	30.211	30.199
18	30.191	30.335	30.061	30.010	29.885	29.783	29.697	29.629
19	29.563	29.483	29.383	29.344	29.316	29.342	29.465	29.611
20	29.675	29.867	29.961	30.049	30.043	30.053	30.096	30.172
21	30.204	30.223	30.245	30.297	30.301	30.340	30.371	30.387
22	30.355	30.323	30.281	30.254	30.178	30.110	30.121	30.172
23	30.183	30.192	30.198	30.231	30.166	30.075	30.028	29.974
24	29.912	29.889	29.851	29.830	29.751	29.701	29.693	29.673
25	29.647	29.651	29.654	29.687	29.676	29.671	29.726	29.706
26	29.627	29.552	29.514	29.602	29.682	29.735	29.821	29.877
27	29.909	29.919	29.942	29.963	29.929	29.893	29.927	29.957
28	29.981	29.999	30.052	30.112	30.099	30.044	30.058	30.055
29	30.044	30.038	30.032	30.066	30.025	29.980	30.001	30.021
30	30.044	30.048	30.071	30.122	30.118	30.077	30.106	30.090
31	30.097	30.118	30.140	30.187	30.184	30.152	30.241	30.261
Hourly means.	30.009	30.014	30.003	30.035	30.006	29.988	30.018	30.038

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
February 1	30.233	30.170	30.122	30.039	29.929	29.836	29.851	29.895
2	29.886	29.858	29.841	29.863	29.795	29.714	29.675	29.670
3	29.609	29.554	29.553	29.634	29.648	29.671	29.761	29.836
4	29.822	29.815	29.808	29.788	29.694	29.599	29.613	29.626
5	29.611	29.603	29.623	29.654	29.615	29.574	29.572	29.578
6	29.572	29.595	29.607	29.638	29.634	29.631	29.662	29.682
7	29.665	29.667	29.667	29.711	29.707	29.645	29.651	29.641
8	29.619	29.586	29.579	29.613	29.628	29.638	29.729	29.821
9	29.857	29.870	29.883	29.939	29.923	29.871	29.901	29.956
10	30.015	30.036	30.076	30.141	30.137	...	30.260	30.327
11	30.360	30.368	30.376	30.410	30.340	30.205	30.135	30.076
12	30.003	29.963	29.845	29.812	29.757	29.731	29.801	29.863
13	29.870	29.839	29.853	29.889	29.813	29.739	29.722	29.672
14	29.651	29.611	29.579	29.570	29.609	29.707	29.865	29.978
15	30.011	30.011	30.013	29.999	29.925	29.816	29.747	29.683
16	29.597	29.483	29.443	29.354	29.363	29.456	29.604	29.749
17	29.821	29.842	29.899	29.964	30.015	30.105	30.226	30.320
18	30.394	30.432	30.490	30.513	30.466	30.400	30.416	30.500
19	30.531	30.565	30.597	30.609	30.548	30.421	30.377	30.359
20	30.310	30.284	30.241	30.227	30.182	30.082	30.066	30.056
21	30.032	29.979	29.984	29.999	29.962	29.923	29.948	29.941
22	29.933	29.919	29.913	29.910	29.878	29.771	29.790	29.792
23	29.803	29.829	29.854	29.898	29.849	29.769	29.741	29.709
24	29.649	29.654	29.674	29.694	29.694	29.748	29.855	29.911
25	29.933	29.940	29.951	29.950	29.865	29.722	29.660	29.651
26	29.676	29.661	29.679	29.730	29.813	29.978	30.005	30.053
27	30.097	30.115	30.159	30.211	30.186	30.108	30.086	30.049
28	29.989	29.977	29.969	29.976	29.943	29.891	29.881	29.869
29	29.843	29.843	29.885	29.965	30.011	30.039	30.105	30.152
Hourly means.	29.910	29.899	29.902	29.921	29.894	29.850	29.886	29.912

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		in.	in.	in.	in.	in.	in.	in.	in.
March	1	30.147	30.123	30.099	30.073	29.962	29.898	29.824	29.826
	2	29.852	29.902	29.959	30.009	30.013	29.996	30.033	30.114
	3	30.162	30.221	30.304	30.359	30.324	30.239	30.228	30.213
	4	30.155	30.090	30.039	30.027	29.898	29.775	29.743	29.710
	5	29.640	29.590	29.557	29.539	29.484	29.469	29.545	29.614
	6	29.612	29.638	29.655	29.693	29.685	29.645	29.672	29.683
	7	29.687	29.667	29.655	29.691	29.683	29.635	29.656	29.692
	8	29.706	29.697	29.672	29.693	29.682	29.706	29.805	29.881
	9	29.937	29.983	30.051	30.120	30.124	30.065	30.069	30.089
	10	30.064	29.999	29.941	29.913	29.837	29.745	29.613	29.545
	11	29.540	29.544	29.560	29.540	29.458	29.367	29.353	29.423
	12	29.493	29.590	29.670	29.739	29.765	29.750	29.764	29.802
	13	29.791	29.748	29.713	29.722	29.673	29.668	29.754	29.841
	14	29.786	29.836	29.929	30.028	30.045	30.006	30.012	30.034
	15	30.026	29.998	29.979	29.953	29.875	29.834	29.882	29.924
	16	29.901	29.873	29.873	29.885	29.855	29.831	29.859	29.903
	17	29.931	29.941	29.959	29.987	29.916	29.838	29.798	29.818
	18	29.781	29.761	29.754	29.718	29.588	29.480	29.471	29.542
	19	29.619	29.687	29.760	29.794	29.754	29.690	29.708	29.744
	20	29.802	29.821	29.839	29.834	29.778	29.676	29.702	29.819
	21	29.898	29.969	30.048	30.082	30.065	30.030	30.038	30.103
	22	30.125	30.102	30.125	30.161	30.162	30.003	29.989	29.978
	23	29.961	29.948	29.943	29.944	29.926	29.871	29.891	29.957
	24	29.983	30.004	30.058	30.109	30.100	30.049	30.054	30.042
	25	30.024	30.003	29.983	29.987	29.940	29.821	29.744	29.585
	26	29.481	29.395	29.438	29.472	29.542	29.628	29.725	29.831
	27	29.885	29.978	30.032	30.072	30.060	30.033	30.059	30.076
	28	30.090	30.091	30.106	30.140	30.088	30.008	29.987	30.000
	29	29.929	29.883	29.864	29.830	29.716	29.578	29.461	29.465
	30	29.370	29.289	29.293	29.261	29.268	29.285	29.323	29.369
	31	29.485	29.425	29.485	29.528	29.540	29.562	29.640	29.684
Hourly means.		29.834	29.832	29.850	29.868	29.832	29.780	29.787	29.816

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1863.		in.	in.	in.	in.	in.	in.	in.	in.
April	1	29.689	29.689	29.708	29.711	29.692	29.648	29.637	29.626
	2	29.577	29.540	29.481	29.479	29.447	29.433	29.471	29.516
	3	29.556	29.587	29.667	29.740	29.754	29.791	29.844	29.909
	4	29.953	29.964	29.989	29.989	29.995	29.936	29.895	29.858
	5	29.800	29.745	29.725	29.741	29.753	29.728	29.769	29.827
	6	29.851	29.877	29.946	29.988	29.986	29.978	30.015	30.070
	7	30.064	30.080	30.105	30.140	30.104	30.047	30.037	30.048
	8	30.015	29.995	29.990	30.007	29.989	29.931	29.903	29.936
	9	29.962	29.948	29.966	29.999	29.926	29.862	29.814	29.687
	10	29.641	29.550	29.518	29.553	29.563	29.547	29.572	29.642
	11	29.682	29.725	29.763	29.810	29.823	29.821	29.846	29.924
	12	29.919	29.925	29.931	29.921	29.878	29.801	29.798	29.803
	13	29.789	29.740	29.754	29.794	29.753	29.758	29.809	29.881
	14	29.898	29.874	29.892	29.893	29.882	29.854	29.847	29.876
	15	29.852	29.823	29.819	29.805	29.750	29.683	29.636	29.639
	16	29.608	29.581	29.583	29.578	29.548	29.505	29.543	29.597
	17	29.622	29.637	29.705	29.762	29.798	29.783	29.815	29.884
	18	29.903	29.915	29.939	29.935	29.897	29.845	29.847	29.874
	19	29.856	29.826	29.844	29.874	29.846	29.804	29.822	29.857
	20	29.854	29.852	29.847	29.861	29.846	29.834	29.846	29.922
	21	29.922	29.920	29.963	30.016	30.028	30.017	30.033	30.100
	22	30.126	30.153	30.196	30.210	30.183	30.135	30.136	30.152
	23	30.109	30.107	30.092	30.096	30.038	29.973	29.941	29.972
	24	29.982	29.996	30.008	29.997	29.948	29.914	29.907	29.895
	25	29.831	29.757	29.733	29.740	29.739	29.696	29.712	29.752
	26	29.784	29.791	29.829	29.797	29.779	29.778	29.809	29.852
	27	29.813	29.797	29.816	29.802	29.752	29.674	29.664	29.802
	28	29.849	29.881	29.934	30.924	29.889	29.894	29.962	30.065
	29	30.100	30.123	30.142	30.152	30.106	30.056	30.056	30.083
	30	30.078	30.065	30.046	30.032	29.955	29.849	29.828	29.796
Hourly means.		29.856	29.849	29.864	29.911	29.855	29.819	29.827	29.862

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
May 1	29.737	29.740	29.740	29.778	29.764	29.738	29.727	29.783
2	29.783	29.771	29.767	29.752	29.687	29.565	29.572	29.632
3	29.632	29.652	29.677	29.722	29.727	29.728	29.759	29.840
4	29.877	29.899	29.963	29.994	30.013	29.987	30.013	30.072
5	30.126	30.140	30.196	30.224	30.177	30.121	30.093	30.107
6	30.104	30.093	30.083	30.058	30.005	29.919	30.884	30.897
7	29.884	29.855	29.868	29.884	29.838	29.781	29.757	29.779
8	29.778	29.758	. . .	29.793	29.777	29.716	29.668	29.688
9	29.692	29.686	29.726	29.738	29.698	29.621	29.587	29.633
10	29.679	29.594	29.608	29.583	29.536	29.470	29.448	29.482
11	29.534	29.547	29.698	29.589	29.557	29.518	29.576	29.664
12	29.698	29.707	29.727	29.716	29.701	29.667	29.671	29.688
13	29.671	29.637	29.643	29.675	29.654	29.640	29.640	29.646
14	29.614	29.821	29.632	29.668	29.664	29.647	29.679	29.764
15	29.773	29.781	29.819	29.853	29.818	29.789	29.801	29.865
16	29.855	29.871	29.891	29.906	29.883	29.835	29.817	29.840
17	29.811	29.791	29.809	29.820	29.805	29.731	29.694	29.716
18	29.695	29.669	29.681	29.698	29.660	29.652	29.676	29.711
19	29.707	29.712	29.738	29.803	29.796	29.757	29.779	29.841
20	29.841	29.831	29.869	29.877	29.853	29.792	29.775	29.806
21	29.797	29.774	29.781	29.774	29.722	29.667	29.631	29.644
22	29.628	29.627	29.627	29.587	29.669	29.646	29.687	29.816
23	29.903	29.911	29.961	29.979	29.923	29.865	29.806	29.819
24	29.797	29.766	29.766	29.765	29.739	29.684	29.634	29.738
25	29.679	29.712	29.732	29.722	29.716	29.673	29.667	29.711
26	29.676	29.647	29.620	29.608	29.571	29.520	29.505	29.542
27	29.520	29.511	29.546	29.571	29.584	29.579	29.615	29.687
28	29.700	29.730	29.791	29.809	29.813	29.797	29.819	29.866
29	29.909	29.949	29.985	30.004	29.985	29.906	29.891	29.906
30	29.890	29.897	29.900	29.904	29.895	29.856	29.843	29.886
31	29.891	29.915	29.950	29.970	29.948	29.904	29.866	29.882
Hourly means.	29.770	29.774	29.793	29.801	29.780	29.767	29.761	29.805

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
June 1	29.889	29.890	29.919	29.912	29.870	29.805	29.777	29.793
2	29.787	29.799	29.849	29.884	29.894	29.905	29.891	29.921
3	29.907	29.924	29.933	29.952	29.949	29.933	28.933	29.961
4	29.991	29.984	30.015	30.038	30.023	29.983	29.961	29.958
5	29.925	29.911	29.881	29.874	29.849	29.810	29.791	29.809
6	29.800	29.791	29.809	29.829	29.805	29.767	29.845	29.881
7	29.911	29.981	30.066	30.165	30.191	30.140	30.132	30.173
8	30.176	30.156	30.153	30.130	30.070	29.986	29.893	29.859
9	29.750	29.650	29.590	29.533	29.456	29.401	29.378	29.430
10	29.443	29.514	29.582	29.675	29.736	29.742	29.758	29.818
11	29.844	29.844	29.888	29.903	29.887	29.864	29.879	29.941
12	29.949	29.961	29.987	30.026	30.031	30.026	30.046	30.071
13	30.098	30.115	30.151	30.162	30.143	30.095	30.085	30.049
14	30.076	30.067	30.059	30.077	30.063	30.019	29.999	29.992
15	29.972	29.940	29.943	29.947	29.911	29.862	29.846	29.879
16	29.870	29.857	29.875	29.860	29.835	29.806	29.811	29.835
17	29.854	29.868	29.902	29.922	29.917	29.898	29.902	29.967
18	30.020	30.037	30.058	30.073	30.061	30.025	30.004	30.027
19	30.035	30.036	30.052	30.046	30.022	29.993	29.978	30.004
20	29.999	30.011	30.033	30.057	30.052	30.042	30.027	30.046
21	30.089	30.089	30.124	30.149	30.168	30.146	30.147	30.222
22	30.243	30.248	30.238	30.130	30.184	30.104	30.036	30.030
23	30.016	29.996	30.005	29.995	29.970	29.910	29.879	29.903
24	29.918	29.939	29.973	30.009	29.981	29.951	29.939	29.956
25	29.952	29.963	29.993	29.981	29.947	29.905	29.891	29.901
26	29.907	29.898	29.918	29.907	29.876	29.800	29.789	29.811
27	29.773	29.765	29.788	29.802	29.795	29.754	29.971	29.997
28	30.042	30.103	30.147	30.175	30.173	30.142	30.104	30.130
29	30.146	30.150	30.173	30.178	30.144	30.095	30.068	30.080
30	30.050	30.036	30.023	29.981	29.949	29.918	29.881	29.877
Hourly means.	29.947	29.951	29.971	29.979	29.972	29.928	29.921	29.945

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
July 1	29.857	29.843	29.853	29.870	29.851	29.820	29.795	29.806
2	29.810	29.762	29.770	29.758	29.723	29.686	29.683	29.735
3	29.747	29.758	29.795	29.803	29.802	29.768	29.727	29.825
4	29.835	29.845	29.883	29.940	29.934	29.900	29.873	29.907
5	29.925	29.946	30.004	30.019	30.012	29.987	29.973	29.995
6	29.990	29.981	29.986	29.965	29.931	29.870	29.827	29.837
7	29.834	29.826	29.825	29.820	29.777	29.727	29.703	29.735
8	29.716	29.745	29.801	29.848	29.873	29.878	29.897	29.986
9	30.025	30.054	30.114	30.136	30.125	30.098	30.072	30.114
10	30.099	30.082	30.084	30.044	29.996	29.905	29.862	29.862
11	29.846	29.820	29.824	29.818	29.795	29.754	29.747	29.759
12	29.755	29.783	29.800	29.834	29.834	29.814	29.817	29.889
13	29.885	29.886	29.963	29.996	30.000	29.975	29.982	30.018
14	30.021	30.020	30.044	30.076	30.051	30.016	29.994	30.019
15	30.010	29.998	30.022	30.030	29.998	29.953	29.931	29.961
16	29.965	29.946	29.983	29.999	29.950	29.932	29.915	29.993
17	29.964	29.969	30.033	30.037	30.032	30.023	30.038	30.087
18	30.110	30.138	30.193	30.213	30.202	30.188	30.196	30.219
19	30.205	30.180	30.216	30.202	30.177	30.117	30.086	30.081
20	30.052	30.014	29.987	29.973	29.907	29.815	29.805	29.816
21	29.787	29.770	29.845	29.859	29.855	29.853	29.846	29.901
22	29.939	29.966	28.987	30.030	30.023	29.996	30.001	30.045
23	30.068	30.060	30.109	30.136	30.105	30.067	30.070	30.084
24	30.093	30.093	30.087	30.075	30.035	29.993	29.973	29.953
25	29.886	29.838	29.642	29.597	29.686	29.740	29.829	29.889
26	29.899	29.941	29.979	30.034	30.038	30.024	30.030	30.073
27	30.080	30.182	30.125	30.138	30.128	30.078	30.075	30.092
28	30.074	30.070	30.090	30.089	30.052	29.967	29.940	29.945
29	29.930	29.887	29.881	29.862	29.804	29.746	29.724	29.862
30	29.745	29.744	29.770	29.777	29.759	29.725	29.715	29.745
31	29.762	29.764	29.823	29.844	29.844	29.789	29.779	29.839
Hourly means	29.933	29.933	29.952	29.962	29.945	29.909	29.900	29.938

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
August 1	29.849	29.855	29.871	29.882	29.848	29.791	29.762	29.801
2	29.785	29.759	29.745	29.745	29.708	29.637	29.622	29.644
3	29.621	29.604	29.611	29.618	29.598	29.567	29.590	29.606
4	29.608	29.617	29.674	29.678	29.666	29.660	29.672	29.732
5	29.755	29.754	29.798	29.862	29.858	29.827	29.843	29.901
6	29.917	29.918	30.007	30.007	30.024	29.999	29.993	30.016
7	30.019	30.012	30.022	30.056	30.047	30.002	29.975	29.997
8	30.016	30.019	30.054	30.061	30.037	29.985	29.955	29.965
9	29.970	29.936	29.957	29.963	29.909	29.847	29.823	29.852
10	29.841	29.834	29.843	29.857	29.825	29.772	29.766	29.794
11	29.802	29.817	29.831	29.857	29.821	29.778	29.781	29.846
12	29.839	29.847	29.898	29.698	29.878	29.841	29.831	29.858
13	29.859	29.865	29.880	29.882	29.846	29.801	29.775	29.831
14	29.834	29.852	29.852	29.874	29.864	29.833	29.856	29.899
15	29.892	29.887	29.910	29.942	29.917	29.882	29.897	29.941
16	29.946	29.913	29.937	29.971	29.957	29.898	29.884	29.909
17	29.890	29.856	29.858	29.862	29.814	29.773	29.797	29.830
18	29.832	29.825	29.858	29.912	29.924	29.912	29.918	29.944
19	29.957	29.975	29.994	30.034	30.036	30.010	30.002	30.019
20	30.010	29.993	29.991	30.001	30.014	29.991	29.989	29.993
21	29.991	29.972	29.983	29.997	29.973	29.925	29.915	29.938
22	29.922	29.904	29.913	29.909	29.869	29.815	29.841	29.894
23	29.928	29.934	29.969	29.982	29.978	29.952	29.938	29.964
24	29.953	29.956	29.971	29.983	29.957	29.908	29.885	29.896
25	29.863	29.845	29.860	29.853	29.810	29.771	29.755	29.766
26	29.783	29.788	29.806	29.836	29.812	29.761	29.680	29.668
27	29.600	29.574	29.560	29.584	29.559	29.558	29.578	29.644
28	29.648	29.647	29.674	29.724	29.728	29.694	29.708	29.754
29	29.769	29.752	29.791	29.825	29.790	29.775	29.795	29.840
30	29.860	29.897	29.896	29.937	29.922	29.907	29.906	29.955
31	29.973	29.979	30.017	30.011	30.020	30.000	30.000	30.014
Hourly means.	29.856	29.851	29.872	29.890	29.871	29.834	29.830	29.862

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
September 1	30.035	30.029	30.044	30.094	30.047	30.003	29.989	30.011
2	30.018	30.026	30.014	30.026	29.988	29.940	29.923	29.944
3	29.937	29.907	29.907	29.905	29.885	29.845	29.830	29.831
4	29.841	29.791	29.801	29.816	29.799	29.776	29.775	29.779
5	29.759	29.729	29.760	29.780	29.726	29.742	29.754	29.773
6	29.791	29.830	29.891	29.995	29.995	30.013	30.061	30.113
7	30.131	30.139	30.190	30.245	30.270	30.246	30.228	30.256
8	30.276	30.271	30.267	30.270	30.214	30.161	30.120	30.121
9	30.096	30.076	30.104	30.061	30.028	29.967	29.928	29.917
10	29.871	29.817	29.822	29.828	29.812	29.789	29.779	29.783
11	29.743	29.703	29.675	29.658	29.637	29.649	29.730	29.778
12	29.775	29.777	29.807	29.827	29.799	29.803	29.818	29.852
13	29.842	29.832	29.822	29.824	29.798	29.787	29.802	29.859
14	29.865	29.855	29.869	29.849	29.857	29.778	29.746	29.745
15	29.726	29.756	29.795	29.819	29.803	29.773	29.778	29.848
16	29.878	29.867	29.905	29.947	29.929	29.917	29.917	29.967
17	29.988	30.003	30.034	30.052	30.017	29.963	29.944	29.961
18	29.953	29.949	29.955	29.950	29.918	29.876	29.840	29.837
19	29.809	29.818	29.859	29.932	29.927	29.929	29.979	30.015
20	30.039	30.081	30.101	30.140	30.110	30.061	30.063	30.085
21	30.079	30.089	30.101	30.111	30.067	30.011	29.989	29.994
22	29.978	29.956	29.997	30.041	30.021	29.986	29.981	30.019
23	30.001	29.964	29.962	29.983	29.951	29.902	29.853	29.849
24	29.813	29.740	29.720	29.687	29.627	29.564	29.640	29.728
25	29.779	29.854	. . .	29.962	29.987	29.960	29.999	30.059
26	30.075	30.090	30.131	30.155	30.097	30.035	30.029	30.028
27	30.009	29.999	30.011	30.011	29.959	29.903	29.912	29.946
28	29.952	29.952	29.986	30.012	30.035	30.015	30.038	30.080
29	30.078	30.074	30.072	30.064	30.006	29.925	29.887	29.883
30	29.863	29.851	29.873	29.954	29.975	29.959	30.013	30.066
Hourly means.	29.933	29.927	29.947	29.967	29.943	29.909	29.912	29.937

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
October 1	30.105	30.103	30.098	30.125	30.091	30.068	30.037	29.999
2	29.977	29.948	29.955	29.997	30.006	30.001	30.041	30.043
3	30.105	30.129	30.154	30.172	30.150	30.129	30.132	30.134
4	30.131	30.121	30.131	30.158	30.126	30.073	30.041	30.043
5	30.046	30.036	30.017	30.026	30.003	29.961	29.964	29.965
6	29.934	29.904	29.884	29.881	29.832	29.757	29.727	29.696
7	29.682	29.700	29.720	29.735	29.683	29.602	29.542	29.493
8	29.493	29.535	29.567	29.604	29.600	29.614	29.657	29.683
9	29.683	29.717	29.781	29.823	29.858	29.884	29.941	29.989
10	30.003	29.997	30.001	29.997	29.883	29.814	29.827	29.887
11	29.912	29.984	29.995	30.048	30.020	29.985	29.997	30.008
12	29.989	29.974	29.935	29.899	29.785	29.723	29.733	29.740
13	29.742	29.754	29.776	29.809	29.782	29.760	29.791	29.829
14	29.816	29.806	29.813	29.803	29.741	29.692	29.710	29.744
15	29.721	29.712	29.707	29.705	29.671	29.614	29.632	29.635
16	29.615	29.635	29.681	29.710	29.733	29.746	29.813	30.007
17	29.944	29.963	30.006	30.024	29.990	29.946	29.955	29.973
18	29.953	29.897	29.857	29.874	29.781	29.710	29.700	29.758
19	29.787	29.787	29.787	29.802	29.766	29.736	29.753	29.833
20	29.860	29.887	29.919	29.955	29.931	29.915	29.959	30.043
21	30.023	30.038	30.062	30.087	30.037	29.989	29.947	29.934
22	29.873	29.839	29.845	29.846	29.893	29.751	29.755	29.771
23	29.772	29.749	29.752	29.765	29.704	29.637	29.664	29.679
24	29.673	29.650	29.661	29.708	29.702	29.708	29.782	29.821
25	29.854	29.889	29.941	29.988	29.960	29.948	29.969	30.011
26	30.015	30.019	30.044	30.077	30.046	30.018	30.018	30.065
27	30.987	29.951	29.926	29.911	29.830	29.763	29.715	29.600
28	29.496	29.302	29.332	29.425	29.459	29.494	29.571	29.632
29	29.671	29.740	29.769	29.825	29.796	29.796	29.841	29.899
30	29.915	29.901	29.928	29.986	29.987	29.997	30.018	30.070
31	30.069	30.068	30.064	30.093	30.046	30.059	30.087	30.106
Hourly means	29.898	29.862	29.874	29.899	29.867	29.835	29.849	29.870

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
November 1	30.136	30.153	30.200	30.273	30.259	30.233	30.258	30.266
2	30.270	30.280	30.238	30.248	30.189	30.146	30.148	30.111
3	30.055	30.047	30.005	30.010	29.961	29.885	29.853	29.732
4	29.578	29.390	29.266	29.191	29.181	29.187	29.290	29.340
5	29.398	29.455	29.525	29.656	29.767	29.844	29.957	30.018
6	30.085	30.133	30.164	30.196	30.146	30.101	30.100	30.104
7	30.078	30.067	30.105	30.129	30.126	30.140	30.176	30.196
8	30.176	30.168	30.163	30.182	30.108	30.083	30.092	30.071
9	30.020	29.982	29.948	29.940	29.864	29.786	29.762	29.708
10	29.631	29.561	29.524	29.569	29.568	29.577	29.642	29.674
11	29.696	29.700	29.721	29.789	29.766	29.725	29.741	29.758
12	29.758	29.697	29.674	29.642	29.552	29.546	29.650	29.754
13	29.778	29.806	29.839	29.899	29.881	29.911	29.975	30.034
14	30.055	30.098	30.129	30.187	30.188	30.178	30.220	30.223
15	30.226	30.195	30.148	30.099	29.987	29.956	30.029	30.136
16	30.196	30.273	30.329	30.387	30.396	30.370	30.377	30.401
17	30.393	30.357	30.360	30.384	30.307	30.248	30.230	30.188
18	30.147	30.074	30.049	30.065	30.048	30.058	30.092	30.093
19	30.090	30.098	30.147	30.204	30.135	30.101	30.090	30.080
20	30.008	29.971	29.931	29.899	29.840	29.770	29.746	29.719
21	29.720	29.694	29.688	29.700	29.638	29.579	29.500	29.389
22	29.434	29.541	29.621	29.694	29.697	29.723	29.776	29.844
23	29.909	29.977	30.058	30.178	30.202	30.266	30.331	30.397
24	30.438	30.472	30.493	30.524	30.483	30.440	30.485	30.498
25	30.492	30.495	30.510	30.552	30.495	30.446	30.452	30.448
26	30.404	30.374	30.337	30.331	30.257	30.185	30.129	30.101
27	30.038	30.010	30.058	30.038	29.998	29.980	30.002	30.018
28	30.035	30.041	30.052	30.056	29.993	29.922	29.882	29.873
29	29.829	29.819	29.813	29.823	29.781	29.733	29.740	29.759
30	29.751	29.763	29.778	29.811	29.813	29.843	29.956	30.038
Hourly means.	29.994	29.989	29.996	30.022	29.987	29.965	29.989	29.999

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
December 1	30.065	30.103	30.132	30.174	30.156	30.137	30.131	30.133
2	30.113	30.109	30.106	30.119	30.062	30.009	29.988	29.933
3	29.871	29.832	29.762	29.740	29.640	29.579	29.624	29.691
4	29.701	29.744	29.789	29.845	29.833	29.823	29.865	29.918
5	29.950	29.987	29.991	30.042	29.983	29.916	29.905	29.911
6	29.903	29.905	29.907	29.893	29.849	29.795	29.826	29.827
7	29.832	29.789	29.767	29.729	29.624	29.539	29.516	29.503
8	29.631	29.791	29.911	30.028	30.035	30.048	30.188	30.320
9	30.448	30.543	30.589	30.648	30.599	30.515	30.478	30.390
10	30.213	30.101	29.991	29.971	29.964	29.954	30.002	29.944
11	29.876	29.838	29.764	29.712	29.590	29.554	29.580	29.649
12	29.809	29.881	29.932	30.006	30.063	30.128	30.237	30.317
13	30.330	30.331	30.351	30.400	30.291	30.219	30.158	30.038
14	29.949	29.840	29.799	29.783	29.777	29.821	29.910	30.002
15	30.109	30.182	30.242	30.306	30.309	30.223	30.173	30.120
16	30.055	30.053	30.080	30.136	30.108	30.074	30.055	30.047
17	29.992	29.981	29.988	30.062	30.039	30.063	30.108	30.152
18	30.182	30.248	30.297	30.339	30.304	30.265	30.240	30.182
19	30.071	29.971	29.823	29.681	29.520	29.425	29.470	29.550
20	29.682	29.796	29.896	29.984	29.986	29.986	30.013	29.979
21	29.923	29.829	29.691	29.526	29.199	29.142	29.199	29.276
22	29.344	29.439	29.534	29.676	29.738	29.960	30.024	30.106
23	30.170	30.218	30.259	30.325	. . .	30.225	30.196	30.112
24	30.037	29.984	30.006	30.077	30.087	30.113	30.174	30.201
25	30.185	30.200	30.206	30.228	30.152	30.085	30.051	30.040
26	29.961	29.889	29.830	29.794	29.710	29.681	29.678	29.690
27	29.655	29.648	29.638	29.663	29.602	29.579	29.596	29.591
28	29.547	29.478	29.472	29.487	29.472	29.491	29.489	29.478
29	29.438	29.439	29.462	29.580	29.571	29.580	29.638	29.654
30	29.656	29.667	29.682	29.760	29.716	29.732	29.769	29.781
31	29.760	29.721	29.699	29.745	29.756	29.857	29.899	29.947
Hourly means.	29.915	29.921	29.922	29.950	29.891	29.888	29.909	29.919

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
May 1	55.0	55.0	55.0	54.0	59.0	61.8	61.5	51.8
2	47.0	45.0	43.5	56.0	62.0	63.0	59.5	42.8
3	43.0	41.4	40.6	48.0	55.5	58.4	54.0	48.2
4	48.0	43.5	44.5	54.7	62.5	66.5	64.2	53.0
5	47.4	46.0	43.8	62.2	71.0	72.6	70.0	60.5
6	55.0	52.0	50.5	64.7	78.0	83.5	67.5	67.6
7	63.5	59.0	59.0	72.0	83.2	86.2	79.0	71.5
8	67.5	61.0	. .	78.0	84.0	88.5	80.0	72.5
9	68.0	62.0	61.6	73.0	77.6	83.0	76.0	71.0
10	68.0	64.0	63.0	74.5	81.0	86.8	80.0	75.6
11	72.2	67.0	65.0	72.3	79.2	80.6	61.5	60.8
12	57.0	56.0	58.0	61.5	63.7	70.0	65.8	62.0
13	62.6	64.0	64.0	63.0	68.5	67.6	65.5	63.2
14	61.8	61.5	61.0	69.0	72.0	74.0	69.6	65.8
15	64.0	62.0	63.2	69.0	70.5	68.5	63.0	59.5
16	57.0	56.0	60.5	69.0	69.8	71.5	69.5	63.7
17	60.0	60.0	61.0	63.0	66.4	72.0	70.0	63.0
18	59.0	58.2	59.0	65.0	76.0	65.0	65.5	62.5
19	61.5	61.0	61.0	64.5	73.0	74.2	69.5	63.3
20	59.3	56.4	55.8	62.5	76.0	77.8	72.6	64.2
21	60.5	58.2	58.0	71.2	80.8	83.5	76.3	72.5
22	68.4	67.0	66.8	76.2	80.0	84.5	74.5	69.0
23	62.0	56.8	59.3	69.0	73.0	76.5	74.0	68.5
24	67.0	67.0	69.0	73.6	81.5	85.2	80.5	67.4
25	66.5	64.2	64.3	74.0	79.5	81.0	75.0	77.4
26	64.6	63.5	64.0	65.5	65.0	68.0	67.0	64.5
27	62.5	62.0	62.0	68.6	74.2	78.4	74.5	65.0
28	64.0	61.5	61.6	70.5	77.0	75.5	68.5	63.5
29	59.0	53.5	50.0	61.3	65.0	70.0	69.0	60.0
30	59.2	56.0	58.0	70.0	78.2	82.5	77.6	68.0
31	64.0	61.0	60.8	75.5	86.4	86.5	82.1	72.0
Hourly means.	60.46	58.12	57.79	66.82	73.21	75.58	70.43	64.20

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
June 1	69.0	64.0	63.0	77.5	86.4	87.0	81.2	74.0
2	70.0	67.0	65.0	68.8	68.0	66.2	63.0	62.0
3	60.5	58.0	56.5	69.7	72.0	72.8	71.2	64.0
4	61.0	58.0	57.5	67.6	75.5	74.4	68.7	62.8
5	62.3	61.0	61.5	66.0	71.5	74.6	71.5	68.5
6	64.5	62.0	64.2	75.5	83.6	88.5	67.5	67.0
7	68.0	63.8	60.0	62.2	70.7	75.0	69.5	61.0
8	57.5	55.5	58.0	67.6	70.5	75.6	70.5	68.5
9	68.0	66.5	68.0	74.3	83.7	86.0	82.5	70.0
10	69.0	65.0	63.0	62.0	67.0	71.0	69.0	60.5
11	60.0	58.2	55.5	61.5	69.0	70.6	65.0	59.5
12	56.5	54.5	53.0	64.5	68.0	67.5	67.0	58.5
13	53.0	48.6	50.4	65.0	70.0	70.0	66.8	58.6
14	53.5	51.0	50.5	59.0	64.2	69.2	70.0	59.5
15	53.0	51.8	50.6	67.0	75.3	81.2	79.0	67.0
16	62.0	59.0	61.0	71.5	81.0	86.0	84.6	71.0
17	67.0	65.0	64.4	79.5	88.7	90.5	84.6	73.0
18	65.4	60.5	59.0	68.0	76.6	79.5	75.5	65.4
19	62.5	59.0	61.2	69.5	73.0	78.0	72.3	68.8
20	63.0	60.5	62.0	69.0	80.0	82.5	75.0	67.0
21	60.5	57.0	57.5	76.0	86.0	88.4	80.5	66.0
22	62.5	58.5	59.5	67.2	75.5	79.5	79.0	70.1
23	67.0	65.0	67.0	80.7	89.5	92.6	90.5	79.4
24	74.0	72.0	73.0	83.0	90.0	94.2	87.5	80.2
25	78.0	74.5	75.0	88.0	96.5	98.6	94.3	85.5
26	81.0	75.0	75.2	90.0	97.2	96.2	87.2	79.8
27	74.8	74.0	73.5	85.5	90.5	87.0	79.0	69.2
28	61.5	57.5	57.5	70.2	76.5	79.0	76.2	66.0
29	62.0	59.0	58.5	71.8	81.5	79.0	75.0	69.0
30	65.0	61.0	64.0	72.0	78.5	75.6	72.5	69.5
Hourly means.	64.40	61.41	61.50	71.67	78.55	80.54	76.54	68.04

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
July 1	69.0	68.8	70.0	76.5	86.5	90.5	88.5	78.5
2	76.0	74.0	75.0	86.5	95.0	78.8	84.4	79.0
3	73.5	72.5	71.0	79.0	82.3	87.5	85.0	79.0
4	74.0	71.5	68.0	74.0	79.0	79.4	81.0	68.0
5	64.0	63.0	62.0	74.0	84.0	87.6	82.0	71.5
6	67.0	62.0	65.0	77.0	86.5	92.0	[illegible].4	77.0
7	75.0	74.6	70.0	84.0	89.7	91.3	9[illegible].0	78.2
8	76.5	75.0	76.5	83.3	88.2	91.0	87.5	78.5
9	73.0	73.0	71.0	77.0	87.5	89.5	84.5	75.5
10	71.0	70.5	70.5	78.0	89.0	91.5	86.0	79.0
11	78.0	77.0	75.0	84.0	84.6	85.5	84.0	77.8
12	74.2	72.0	71.5	85.3	91.5	78.0	83.2	78.0
13	75.0	74.5	71.5	75.0	86.0	87.5	84.0	74.5
14	72.0	68.5	66.5	76.0	87.6	87.5	83.0	73.5
15	67.0	66.0	65.0	75.5	83.0	86.0	82.0	71.0
16	64.0	61.0	60.4	73.0	86.0	89.5	84.5	72.0
17	64.0	62.0	62.0	78.6	88.6	95.0	87.0	74.5
18	70.0	65.0	61.5	74.0	89.4	90.0	79.5	73.0
19	66.8	62.2	66.0	77.0	89.0	87.5	82.5	76.5
20	73.2	72.5	72.8	79.0	89.0	95.0	80.0	74.8
21	73.5	73.0	70.0	72.5	83.2	77.3	78.0	68.0
22	63.0	57.5	57.5	68.4	71.8	76.6	71.5	62.2
23	58.5	55.0	52.6	65.0	80.5	85.5	79.0	67.3
24	62.0	56.5	55.0	69.0	82.0	80.2	73.5	70.0
25	65.0	62.0	59.0	60.5	64.5	73.5	72.5	67.0
26	63.8	64.5	62.0	75.5	84.0	87.5	82.0	74.0
27	70.0	67.2	66.0	76.2	85.5	87.6	80.5	75.5
28	72.0	70.0	71.0	80.0	89.0	93.5	89.0	77.5
29	73.0	69.5	68.0	81.5	93.0	97.5	93.0	80.2
30	76.0	74.0	75.0	84.2	93.0	96.8	93.6	82.0
31	80.0	74.0	73.5	87.0	95.0	99.5	91.0	83.5
Hourly means.	70.32	68.03	67.12	76.98	85.93	87.62	83.66	74.74

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
August 1	78.0	73.0	74.5	82.5	92.5	100.5	91.0	82.0
2	78.0	76.0	75.0	80.6	87.0	92.8	79.5	74.0
3	72.6	71.4	72.4	77.5	85.6	85.2	81.2	73.4
4	71.4	71.0	71.0	75.5	83.6	87.5	85.0	74.3
5	70.0	67.5	66.0	78.2	86.5	92.3	86.0	76.0
6	74.0	73.0	72.0	77.0	82.3	78.5	81.5	76.0
7	74.0	73.0	73.5	79.0	84.2	87.2	83.0	79.5
8	75.5	74.0	71.8	79.5	87.4	90.3	84.5	77.0
9	72.5	69.0	69.5	75.5	89.5	93.5	86.5	78.0
10	76.0	73.0	72.0	83.5	94.4	97.2	90.5	81.5
11	78.0	74.5	73.2	84.5	95.5	95.5	88.3	79.8
12	77.3	76.0	72.0	85.0	93.5	96.5	91.6	82.4
13	78.0	76.0	74.2	83.5	93.2	98.2	90.0	76.8
14	75.0	75.0	75.8	84.0	92.5	88.0	83.0	78.5
15	76.0	74.0	73.8	80.4	86.5	88.0	78.0	76.0
16	76.5	75.8	75.8	81.5	87.3	84.5	82.0	79.0
17	77.8	77.0	77.6	83.0	92.0	84.5	79.0	78.0
18	75.3	75.0	74.5	72.5	76.4	78.5	75.0	74.0
19	74.0	73.5	70.6	76.0	75.7	77.5	74.5	72.5
20	71.0	70.0	70.0	73.0	72.5	71.0	70.7	69.0
21	69.5	69.0	67.0	70.4	76.7	81.7	77.8	72.0
22	71.0	70.0	72.5	75.7	81.0	81.5	72.3	71.0
23	71.0	69.7	68.4	73.7	81.0	85.0	77.7	72.0
24	70.8	70.0	68.0	75.3	84.3	87.8	78.5	74.5
25	73.5	70.5	69.5	77.0	88.5	84.5	76.0	74.8
26	74.0	69.0	67.8	76.5	83.5	85.7	79.0	71.0
27	75.0	73.0	69.0	73.2	82.0	82.5	78.8	72.1
28	67.0	65.0	65.0	72.7	76.0	76.0	74.5	67.5
29	66.0	63.0	62.0	71.0	80.0	77.6	75.2	66.2
30	62.5	60.0	58.0	67.5	75.5	78.8	73.0	66.5
31	58.0	56.8	56.5	65.0	71.5	75.5	68.5	61.5
Hourly means.	72.88	71.09	70.29	77.10	84.13	85.93	80.39	74.41

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
September	1	58.0	56.0	54.0	66.5	76.3	79.7	71.0	66.0
	2	60.0	57.5	55.0	72.7	77.0	80.2	70.7	64.0
	3	62.0	62.0	64.0	66.5	69.5	70.4	69.0	68.5
	4	67.0	66.5	66.5	68.7	71.0	74.5	73.5	69.2
	5	70.5	70.0	70.5	70.0	77.5	74.4	66.6	64.0
	6	62.5	61.0	59.5	58.7	59.5	60.0	58.5	58.0
	7	58.0	56.0	53.2	64.5	73.5	73.5	66.5	58.0
	8	55.8	53.0	50.2	62.2	66.5	63.2	60.0	59.5
	9	59.0	59.0	57.8	61.8	72.0	76.5	70.8	64.3
	10	63.6	63.5	63.8	66.5	75.3	75.3	72.0	67.8
	11	66.0	64.5	65.0	67.0	77.0	74.5	61.0	60.5
	12	58.7	58.0	55.0	57.0	61.5	63.5	58.3	55.6
	13	54.0	53.5	52.5	60.7	67.5	71.5	66.0	60.5
	14	57.6	53.5	52.7	61.5	59.3	63.0	62.0	60.5
	15	60.5	59.0	58.5	70.6	76.3	80.0	71.5	67.5
	16	63.0	61.0	56.0	64.0	68.5	72.5	66.5	58.6
	17	54.6	52.5	51.0	60.7	75.2	79.0	67.5	61.0
	18	60.2	59.5	59.0	66.5	68.2	70.2	66.0	64.5
	19	64.0	62.5	61.0	62.8	69.5	71.7	63.0	56.0
	20	52.8	50.1	48.5	58.5	72.6	77.0	67.5	64.0
	21	59.5	57.0	55.5	60.5	75.5	79.0	71.0	67.5
	22	68.0	64.0	63.0	67.0	75.0	77.4	69.8	68.0
	23	66.5	66.0	65.5	68.4	72.0	73.5	69.2	68.0
	24	68.5	70.0	70.2	74.6	82.6	81.6	72.4	65.0
	25	64.5	55.0	. .	57.0	64.0	66.5	60.0	55.5
	26	52.0	50.0	48.5	60.2	74.0	77.5	66.4	60.5
	27	58.0	56.0	54.5	64.8	81.5	83.0	70.5	66.5
	28	62.5	62.8	63.5	71.5	72.5	76.4	73.5	69.0
	29	67.5	66.5	67.0	74.0	82.0	81.5	75.0	73.0
	30	71.4	70.5	69.0	68.5	68.0	73.0	64.7	58.5
Hourly means.		61.54	59.91	58.98	61.80	72.03	74.00	67.35	63.32

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
October	1	54.0	53.0	52.0	53.5	55.2	55.5	56.5	57.4
	2	58.5	58.0	59.5	61.6	66.0	71.4	66.2	64.0
	3	61.2	59.5	58.5	60.5	63.7	65.2	64.0	61.0
	4	61.6	60.8	62.0	64.2	68.0	69.6	68.5	68.0
	5	65.0	65.0	65.5	67.0	68.4	72.5	69.8	68.0
	6	67.8	67.8	68.0	71.6	80.3	75.4	71.0	68.0
	7	68.0	66.0	62.5	68.0	75.0	78.7	67.6	65.0
	8	64.0	59.0	54.2	54.8	57.0	53.8	47.5	43.0
	9	43.0	41.5	40.4	45.0	48.0	48.0	43.0	39.0
	10	36.0	33.4	32.8	45.2	60.8	66.0	55.0	51.5
	11	51.0	48.0	44.5	56.0	67.0	68.0	58.0	49.0
	12	46.0	44.5	44.0	50.5	63.5	55.5	54.0	49.0
	13	48.5	46.0	44.0	49.4	54.5	57.0	49.5	47.0
	14	43.0	42.0	40.0	51.0	60.2	64.4	54.5	51.9
	15	51.0	49.0	47.5	58.0	68.0	67.5	58.6	54.5
	16	54.2	50.2	49.0	53.5	65.3	64.5	57.2	50.2
	17	46.0	45.0	43.5	53.6	64.5	66.8	57.0	51.8
	18	46.5	42.5	40.0	46.5	68.4	71.0	58.0	56.0
	19	44.0	40.0	38.0	51.1	58.3	60.5	52.2	50.0
	20	46.5	43.5	41.0	47.2	54.0	57.2	49.2	43.5
	21	38.0	37.0	38.5	49.0	61.0	65.0	52.2	50.2
	22	49.0	45.0	43.0	45.2	49.0	49.5	44.8	44.0
	23	42.2	40.5	39.0	49.5	57.0	58.0	51.6	45.0
	24	43.0	42.0	40.2	47.0	61.6	58.5	54.3	51.4
	25	49.5	44.0	39.0	49.6	65.0	64.5	51.0	44.6
	26	41.0	39.0	36.3	45.2	62.0	60.0	52.0	49.0
	27	49.2	48.5	49.0	53.7	64.5	60.0	55.5	57.0
	28	58.0	56.0	55.0	56.2	58.5	59.0	53.0	51.0
	29	47.5	46.0	45.8	51.0	60.9	60.7	52.5	44.0
	30	41.0	38.0	35.2	44.5	58.0	58.6	50.7	43.7
	31	41.0	37.0	35.5	43.7	57.8	55.1	50.2	48.6
Hourly means.		50.17	47.99	46.56	53.00	61.98	62.50	55.65	52.14

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h..	6h.	9h.
1864.		°	°	°	°	°	°	°	°
November	1	48.5	42.5	39.0	46.0	51.2	54.0	47.0	39.0
	2	34.5	33.4	35.5	41.4	44.0	41.5	39.0	38.0
	3	39.4	38.8	38.5	38.5	41.5	42.2	41.5	43.8
	4	44.2	45.0	46.0	47.5	53.2	56.5	50.6	45.2
	5	41.5	43.0	42.0	44.5	44.0	44.6	38.3	34.0
	6	30.2	28.5	28.0	36.0	55.5	54.6	48.5	46.5
	7	48.4	49.6	50.0	52.5	54.6	55.5	55.0	56.5
	8	56.0	56.2	56.4	59.0	63.0	61.0	60.6	59.0
	9	61.8	61.0	60.5	62.8	67.5	69.8	66.1	67.5
	10	66.0	66.8	66.5	60.0	68.5	65.0	55.3	48.6
	11	47.9	45.0	42.5	48.0	54.2	57.0	48.5	45.5
	12	40.0	40.5	41.0	45.5	57.0	50.5	45.8	40.5
	13	38.5	37.4	34.5	39.0	42.5	39.4	37.2	35.8
	14	32.0	29.8	31.5	36.0	38.6	40.7	33.0	30.0
	15	28.0	27.0	28.2	36.0	43.0	47.5	45.0	40.8
	16	39.0	36.0	32.0	39.5	51.0	50.5	41.4	38.0
	17	38.2	38.2	39.6	43.0	48.4	48.5	47.8	47.0
	18	47.0	47.5	49.0	51.0	53.5	52.0	48.6	46.8
	19	46.0	45.0	43.5	40.6	47.5	48.5	41.2	37.2
	20	38.5	38.0	38.0	40.7	42.0	44.0	43.6	43.8
	21	44.1	44.0	43.2	44.0	45.4	45.5	45.0	44.3
	22	39.0	35.0	35.0	33.5	34.4	33.0	31.0	29.8
	23	26.0	24.0	22.5	26.0	31.8	32.6	28.0	24.0
	24	21.6	20.0	20.5	27.0	39.0	41.0	33.2	30.0
	25	26.0	25.0	23.5	28.6	44.5	49.0	40.5	36.2
	26	35.3	33.0	31.6	36.5	46.0	47.0	43.4	41.0
	27	40.2	36.8	34.5	39.2	54.0	52.0	45.0	43.5
	28	34.3	38.0	40.0	44.5	52.5	57.0	52.0	51.5
	29	50.1	50.0	49.5	55.4	66.8	71.0	59.7	54.2
	30	55.4	53.0	51.0	52.8	70.5	68.0	60.2	54.0
Hourly means.		41.25	40.27	39.78	43.17	50.19	50.65	45.73	43.07

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
December	1	46.0	43.5	44.0	46.0	57.2	57.5	50.0	45.5
	2	43.2	43.0	42.0	45.5	48.4	47.8	48.5	48.3
	3	48.0	47.8	49.0	50.3	57.0	59.8	58.0	56.8
	4	48.0	44.2	42.5	44.5	48.2	49.7	40.5	34.8
	5	31.5	31.0	28.4	36.8	45.0	45.5	43.7	39.5
	6	36.8	36.5	37.0	41.8	50.0	54.0	48.0	41.5
	7	38.0	38.5	40.0	43.5	51.5	55.0	54.5	55.7
	8	53.5	46.0	35.5	33.7	33.0	36.5	34.6	29.0
	9	23.2	23.5	18.0	20.0	26.2	25.5	24.3	24.5
	10	22.5	28.5	31.0	28.0	32.0	32.0	31.5	31.6
	11	31.5	31.0	32.0	32.5	33.5	35.0	33.5	26.0
	12	12.2	11.3	12.5	19.0	24.3	23.5	20.0	17.5
	13	17.0	18.0	18.8	21.3	28.3	29.6	30.0	30.7
	14	35.5	34.5	35.0	37.7	39.5	46.0	42.6	39.2
	15	35.5	30.4	27.5	28.3	29.2	29.5	30.0	31.2
	16	30.0	28.0	29.0	32.0	35.5	37.0	34.5	32.4
	17	32.4	33.0	33.5	35.5	36.6	39.2	38.4	35.5
	18	37.0	35.0	33.5	35.5	41.5	40.5	37.5	36.6
	19	36.8	36.4	36.5	40.6	44.5	46.8	49.1	45.0
	20	39.4	32.0	30.0	30.5	31.8	32.0	28.5	26.6
	21	28.0	30.0	29.0	31.2	33.2	32.0	32.5	33.0
	22	29.8	28.6	28.0	26.0	25.8	24.3	22.0	19.5
	23	17.0	15.2	14.5	19.0	. .	26.5	24.0	23.0
	24	25.0	26.0	27.0	29.0	36.0	38.5	33.5	28.0
	25	24.2	24.2	20.0	23.6	35.6	42.6	39.0	38.0
	26	39.2	38.0	36.2	36.5	40.0	40.5	38.0	36.5
	27	36.5	36.0	35.5	36.5	39.0	41.0	41.3	41.8
	28	42.0	43.0	42.0	42.7	48.3	50.6	48.0	43.0
	29	38.7	3600	33.0	32.2	35.5	33.5	30.5	28.2
	30	27.0	28.5	27.0	30.0	39.4	42.7	36.8	37.0
	31	36.8	32.9	33.0	33.5	34.0	28.0	28.5	25.5
Hourly means.		33.62	32.59	31.64	33.65	38.67	39.42	37.15	34.21

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
January 1	43.5	45.0	47.5	37.5	31.0	20.0	17.0	12.0
2	9.4	8.8	7.6	7.0	18.0	20.5	16.0	14.0
3	13.0	14.0	15.5	18.0	27.0	32.5	26.0	26.0
4	28.0	28.0	27.6	29.0	29.5	28.6	27.0	25.5
5	24.3	24.6	25.0	28.4	32.0	32.5	25.0	21.4
6	18.5	18.0	18.0	19.0	21.5	22.5	21.0	19.0
7	16.0	12.0	7.5	10.5	19.0	20.0	18.5	17.5
8	16.0	15.0	15.8	16.5	21.0	23.0	19.8	19.0
9	17.0	16.5	15.5	13.0	18.0	22.0	17.0	14.5
10	12.5	13.0	10.2	13.0	25.8	30.0	25.0	23.0
11	17.0	11.5	10.0	15.2	29.8	32.0	28.4	21.0
12	14.0	12.0	9.5	15.4	31.2	. .	26.0	23.5
13	22.5	20.0	19.0	22.0	31.0	34.2	33.0	30.0
14	27.5	21.0	21.0	20.0	32.0	37.0	34.0	32.5
15	32.5	33.0	34.0	34.2	37.6	41.5	36.8	34.0
16	32.0	29.0	27.6	27.0	31.0	32.5	30.5	27.0
17	25.0	24.5	26.0	29.5	35.2	37.0	34.6	34.0
18	33.6	34.8	35.5	37.0	39.6	39.0	38.2	37.0
19	38.0	39.5	45.5	41.4	40.5	35.2	29.5	27.0
20	27.0	28.5	29.0	31.4	36.0	35.6	32.4	34.0
21	33.8	32.5	33.0	33.0	36.0	33.5	31.0	31.0
22	31.5	31.7	32.0	33.0	40.0	42.4	38.4	32.0
23	30.4	29.0	27.4	31.5	43.0	42.0	41.5	39.0
24	37.4	39.0	36.8	42.0	48.4	51.0	49.5	50.5
25	47.0	44.0	42.0	43.4	52.5	57.7	49.0	40.5
26	37.0	38.2	41.4	48.0	57.0	49.0	47.2	37.5
27	35.0	32.0	31.0	37.0	48.5	57.9	46.0	45.0
28	40.4	35.5	34.0	38.4	53.5	59.0	52.5	46.0
29	39.5	36.0	34.0	38.6	54.0	56.0	. .	44.6
30	42.0	42.0	40.2	40.5	41.2	40.6	39.6	37.8
31	37.8	37.0	37.0	38.2	41.6	41.6	40.5	40.0
Hourly means.	28.37	27.24	26.97	28.73	35.56	36.86	32.36	30.19

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
February 1	38.2	38.4	39.0	41.0	43.0	46.0	44.5	45.5
2	43.8	40.0	38.0	37.6	42.5	44.0	41.5	40.0
3	38.2	35.4	34.8	. .	32.0	32.0	30.5	29.0
4	27.6	26.5	25.0	29.0	33.7	38.5	37.0	35.0
5	35.0	34.0	31.0	38.0	45.4	47.5	42.0	40.0
6	38.0	36.0	35.5	37.0	41.0	43.0	41.0	40.0
7	40.2	39.0	38.5	38.0	38.5	40.0	39.0	36.5
8	35.0	32.0	31.0	35.8	38.6	39.0	32.5	29.5
9	28.0	28.5	26.2	29.0	32.5	33.5	32.0	26.7
10	25.0	22.0	21.0	. .	31.8	. .	26.5	22.5
11	19.0	17.0	16.0	21.0	29.5	34.5	33.0	30.0
12	31.0	30.5	31.5	33.4	41.5	42.5	40.0	34.5
13	31.5	27.0	28.0	34.5	40.5	42.0	38.0	34.0
14	34.0	34.0	33.5	39.0	45.2	40.4	36.5	34.0
15	30.4	28.2	27.0	29.0	32.6	33.0	32.4	34.0
16	32.0	31.0	30.5	31.7	35.0	31.0	22.5	16.0
17	11.0	. .	. .	9.0	. .	. .	. .	. .
18	. .	. .	. .	. .	. .	. .	. .	. .
19	. .	. .	. .	. .	. .	20.2	18.0	. .
20	. .	. .	. .	20.8	32.0	36.0	29.5	28.5
21	27.5	26.8	27.0	29.1	34.2	39.5	36.0	34.2
22	33.2	31.5	29.5	32.0	36.0	42.8	40.5	38.2
23	37.0	35.0	34.0	39.0	51.0	53.0	46.0	43.0
24	41.5	42.0	42.4	43.5	44.4	42.4	39.6	36.0
25	32.5	31.0	30.4	34.0	41.5	44.2	43.0	44.5
26	41.0	36.5	34.5	33.0	34.0	32.5	27.5	28.0
27	29.0	27.0	27.0	32.5	38.0	41.0	38.5	35.5
28	36.0	37.0	37.5	42.5	48.0	53.0	49.5	48.8
29	50.0	50.0	48.5	41.5	40.8	40.5	37.0	35.0
Hourly means.	33.16	31.27	31.67	34.15	39.57	41.33	37.04	34.69

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
March 1	32.5	31.0	30.0	31.5	32.5	32.6	32.0	32.0
2	30.0	28.2	25.0	28.5	32.5	36.0	34.8	31.5
3	30.5	27.0	25.0	29.8	37.4	39.0	36.5	32.5
4	30.8	30.0	31.0	34.2	48.0	48.4	45.0	43.0
5	42.5	43.0	44.0	48.0	50.4	47.0	41.8	36.0
6	34.0	34.0	34.5	36.4	37.0	37.5	37.5	35.0
7	33.0	31.5	30.2	33.5	40.0	44.0	42.2	36.0
8	33.5	32.0	36.6	37.6	38.2	40.5	40.4	37.5
9	34.5	29.0	28.0	32.0	46.4	46.2	44.6	39.5
10	39.8	38.5	38.0	40.5	41.7	43.5	43.0	45.0
11	44.0	43.5	43.0	41.5	42.7	44.7	45.4	44.0
12	40.8	38.0	37.0	43.5	49.5	50.7	47.7	44.5
13	42.0	40.0	38.5	44.0	50.5	49.3	45.7	42.0
14	42.0	41.0	40.0	36.0	39.8	39.0	36.5	36.0
15	35.5	35.0	34.0	38.5	41.0	34.5	30.4	27.0
16	26.0	25.0	23.0	28.5	31.8	31.0	29.5	30.0
17	29.5	28.0	27.5	32.0	37.2	36.0	33.8	31.0
18	31.8	32.0	31.5	38.2	43.3	45.0	44.0	43.4
19	42.0	36.0	33.0	32.0	39.4	42.0	38.0	36.0
20	32.0	28.0	25.0	33.0	37.6	40.5	34.0	27.2
21	25.2	22.0	21.0	24.0	30.0	34.0	31.0	. .
22	. .	23.0	22.1	. .	26.0	26.5	26.0	24.0
23	23.0	21.8	21.2	25.5	30.5	35.2	32.4	28.0
24	24.5	27.5	27.0	30.5	35.4	41.5	41.0	35.0
25	31.3	29.0	29.5	33.5	37.0	39.0	37.0	. .
26	43.0	39.5	38.0	39.8	40.6	40.8	40.5	39.0
27	39.5	37.5	36.5	43.4	46.8	48.0	45.4	41.0
28	37.0	34.5	33.0	41.6	47.0	48.7	45.5	43.0
29	40.0	40.0	37.5	42.5	43.0	42.5	43.4	41.5
30	38.5	38.0	34.8	34.0	37.5	38.0	38.0	37.0
31	36.5	36.0	35.5	40.2	42.0	42.4	40.5	38.0
Hourly means.	34.84	32.89	31.96	35.97	39.76	40.77	38.82	36.40

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
April 1	37.6	37.0	37.5	42.8	44.4	44.0	41.2	40.8
2	39.6	37.5	36.0	33.8	35.2	37.0	37.0	38.0
3	39.5	40.5	41.0	44.0	46.2	49.2	47.4	46.0
4	43.0	38.0	33.5	37.8	39.5	40.5	37.5	37.0
5	37.0	32.5	36.8	35.8	36.3	38.6	39.4	39.5
6	39.6	38.5	39.0	44.3	49.0	52.0	50.4	45.5
7	43.1	38.2	36.0	44.6	50.3	50.0	49.5	44.5
8	40.0	36.0	36.0	48.0	51.6	54.8	50.5	47.0
9	45.5	46.0	44.8	46.5	47.4	46.5	45.5	46.0
10	48.5	48.7	49.5	49.5	51.6	55.0	51.3	48.0
11	46.8	45.1	45.0	46.6	49.0	49.0	48.0	45.2
12	41.2	38.0	38.0	48.0	54.0	53.0	49.5	48.5
13	48.6	47.0	46.5	47.5	48.3	48.0	46.5	45.0
14	42.3	43.0	40.0	46.4	47.5	46.5	45.6	45.5
15	43.2	40.1	38.1	47.5	49.5	48.4	47.0	47.4
16	45.0	43.0	44.0	43.5	43.2	44.2	42.0	41.5
17	39.5	39.5	40.0	43.8	44.2	46.0	44.0	40.2
18	38.0	35.0	35.5	44.5	47.5	50.4	48.6	44.0
19	31.5	38.0	38.5	44.5	49.0	47.5	45.0	39.0
20	36.5	35.0	37.4	42.3	43.0	44.2	41.5	40.6
21	41.0	39.0	39.0	43.6	42.2	47.2	46.0	42.0
22	40.0	38.0	36.5	48.5	56.0	56.0	50.4	47.2
23	47.0	48.0	49.0	58.5	63.5	64.2	61.5	59.0
24	57.5	56.0	55.0	62.3	65.5	64.1	62.0	60.5
25	62.0	60.8	61.0	63.3	63.5	65.0	59.0	55.2
26	52.0	50.0	48.6	54.0	54.0	54.5	52.5	49.5
27	47.5	47.5	50.0	57.0	60.0	64.3	61.2	50.2
28	44.2	40.0	36.8	40.5	46.5	50.0	47.5	40.8
29	36.5	36.0	34.0	43.5	52.0	54.0	54.5	49.5
30	47.0	44.5	42.8	51.6	59.0	56.0	55.0	53.5
Hourly means.	43.36	42.05	41.36	46.82	49.63	50.67	48.58	45.89

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
May	1	54.0	53.6	53.5	49.4	52.0	53.0	53.0	48.0
	2	45.0	43.0	42.0	53.0	55.5	55.0	51.5	42.0
	3	42.5	40.0	38.5	42.0	47.6	49.6	46.0	43.7
	4	45.7	40.5	41.5	49.0	54.8	56.4	53.6	49.5
	5	46.5	45.0	43.0	56.5	60.5	60.6	59.5	55.0
	6	52.0	50.0	49.0	57.5	66.0	69.0	65.4	59.5
	7	57.0	56.2	56.5	63.5	68.3	72.6	68.5	65.0
	8	60.5	58.0	. .	67.6	72.0	74.5	70.3	65.5
	9	62.5	60.0	60.4	66.0	70.0	72.0	69.0	66.0
	10	64.1	61.0	61.4	68.2	72.7	71.5	68.5	66.0
	11	65.5	63.0	62.5	67.0	71.0	71.5	59.8	60.0
	12	56.5	55.5	57.5	60.3	63.0	67.2	63.5	61.2
	13	62.0	63.8	63.2	62.2	66.0	64.8	63.2	62.4
	14	60.5	60.0	60.0	65.0	67.8	68.0	63.7	63.0
	15	62.5	61.5	63.0	66.0	66.8	67.0	62.0	58.2
	16	56.5	55.5	60.2	66.0	66.2	68.3	67.2	62.5
	17	59.5	59.5	60.8	62.8	63.5	67.5	67.0	62.0
	18	58.5	58.0	58.6	63.5	70.6	63.5	63.7	62.0
	19	60.5	60.0	60.0	62.5	68.5	68.6	67.0	62.0
	20	59.0	56.2	55.5	61.0	70.5	70.5	67.0	62.0
	21	59.8	57.8	57.5	67.4	72.2	75.6	73.8	69.7
	22	67.0	65.0	64.6	73.7	76.0	80.0	72.6	67.2
	23	61.5	56.0	58.7	65.5	70.4	73.5	71.2	68.0
	24	66.5	66.5	68.6	72.0	76.7	79.0	77.0	67.0
	25	66.0	64.0	64.0	70.5	76.4	76.4	72.3	76.5
	26	64.0	63.0	63.8	65.0	64.4	66.5	64.8	64.0
	27	62.0	61.5	61.8	66.0	70.8	73.5	70.8	64.5
	28	62.5	60.5	59.4	65.0	69.8	69.0	64.0	60.6
	29	56.5	56.6	48.0	56.6	59.5	64.2	64.5	58.0
	30	57.8	55.5	57.6	67.0	72.0	76.5	75.5	67.0
	31	62.5	60.0	60.0	73.5	78.6	81.5	80.0	70.2
Hourly means.		58.61	56.83	57.05	62.94	67.10	68.61	65.67	61.56

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
June	1	67.2	62.5	62.2	74.0	81.7	83.5	80.0	69.0
	2	68.0	66.0	64.0	. .	67.5	64.0	61.8	60.5
	3	59.8	56.5	55.5	66.0	67.4	68.7	67.6	62.0
	4	60.5	57.5	56.8	63.2	67.0	66.0	61.3	57.0
	5	59.0	60.0	60.5	64.0	68.0	70.2	68.5	67.0
	6	63.6	61.2	61.8	71.2	77.6	78.5	66.0	66.7
	7	67.2	60.0	55.5	65.4	62.0	65.0	62.6	57.2
	8	55.5	55.0	56.5	62.5	64.0	68.0	65.0	64.8
	9	66.2	65.0	67.0	71.0	76.0	77.0	75.5	67.0
	10	66.0	64.0	58.0	52.9	57.0	60.2	59.5	57.8
	11	57.0	56.3	52.0	56.0	60.5	63.5	60.2	55.5
	12	54.0	52.5	50.0	57.5	58.0	58.0	56.2	54.5
	13	50.8	46.0	48.0	59.0	60.2	60.0	59.5	54.4
	14	52.5	50.0	50.0	56.0	58.6	61.5	61.0	57.0
	15	52.5	51.4	50.2	61.5	63.5	71.0	70.0	66.0
	16	61.0	57.0	57.5	62.4	67.0	. .	68.0	65.0
	17	63.2	61.0	60.6	70.0	73.0	78.4	75.5	68.0
	18	61.4	57.5	57.0	62.6	69.0	70.2	67.0	62.0
	19	58.0	57.0	60.0	65.0	67.0	69.5	66.2	63.2
	20	61.5	59.5	60.0	66.0	70.8	72.0	67.0	72.5
	21	58.9	55.5	56.5	69.0	77.0	76.0	74.0	61.0
	22	60.5	57.5	58.2	63.5	68.5	70.0	73.5	69.0
	23	66.0	66.0	66.0	77.0	85.5	77.0	77.0	73.3
	24	70.0	69.0	70.0	75.0	78.5	78.5	78.3	75.0
	25	73.5	71.0	69.5	76.0	79.5	79.8	78.5	75.5
	26	73.0	71.0	72.0	77.4	79.5	78.6	77.0	75.0
	27	72.0	72.0	70.6	75.0	76.0	75.7	70.2	62.0
	28	57.0	54.0	54.2	69.5	63.5	65.5	65.2	60.5
	29	58.0	55.0	55.0	63.0	67.0	66.0	65.0	61.8
	30	60.0	58.0	61.0	65.6	70.5	69.2	69.5	68.0
Hourly means.		61.79	59.50	59.20	66.11	69.36	70.40	68.42	64.27

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
July	1	67.8	67.5	69.2	74.3	78.4	81.0	79.5	73.5
	2	74.0	72.5	73.0	79.2	80.0	75.6	78.5	71.0
	3	68.7	69.0	65.4	70.0	77.0	74.0	75.2	70.5
	4	68.0	63.0	61.0	62.5	65.0	64.0	67.5	61.5
	5	59.0	59.0	59.0	65.2	79.0	70.4	69.0	62.4
	6	63.5	60.0	63.5	69.2	73.5	74.3	. .	69.0
	7	69.0	69.0	65.2	73.6	77.4	77.5	79.5	74.5
	8	74.5	73.0	72.0	74.0	74.5	75.0	76.0	74.3
	9	70.0	70.5	68.5	70.0	71.0	72.0	69.7	63.2
	10	64.0	64.0	66.4	70.2	77.2	78.0	75.8	73.0
	11	73.5	74.0	71.0	76.6	81.0	80.0	79.0	72.5
	12	71.6	70.0	70.0	75.5	76.5	76.0	78.6	76.0
	13	73.0	70.8	67.2	67.0	72.2	74.0	72.6	69.0
	14	67.8	65.5	64.5	69.5	72.5	72.5	70.0	67.0
	15	62.5	63.0	62.5	66.0	66.0	69.0	68.7	62.5
	16	60.0	59.0	59.5	63.0	69.5	71.5	69.5	64.0
	17	59.0	60.0	60.0	68.7	72.0	73.5	69.7	65.5
	18	59.0	57.0	58.5	67.2	71.2	73.2	67.3	64.5
	19	60.5	59.8	63.4	70.0	72.4	73.0	74.2	72.5
	20	71.5	70.5	71.0	73.0	77.5	79.0	73.0	73.3
	21	72.0	71.0	65.3	65.5	70.0	66.0	67.0	62.0
	22	57.5	55.5	55.0	56.2	69.0	60.8	59.6	57.0
	23	56.2	54.0	50.8	60.0	64.0	65.5	65.0	60.6
	24	58.0	55.0	53.2	61.2	66.0	64.5	64.2	63.0
	25	60.2	60.5	58.5	59.5	61.5	66.5	65.0	60.6
	26	58.5	59.0	59.8	66.5	70.5	73.0	73.2	69.0
	27	68.0	66.0	64.5	73.0	72.8	73.2	74.0	70.5
	28	69.0	68.0	68.0	74.0	74.5	76.5	74.2	72.5
	29	70.0	68.0	66.6	72.0	74.5	75.5	75.5	73.4
	30	70.6	70.0	71.0	73.6	76.0	77.5	76.8	74.8
	31	75.0	71.0	71.2	75.0	79.0	77.6	78.0	72.2
Hourly means.		66.19	65.00	64.35	69.07	72.95	72.91	71.86	68.24

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
August	1	71.5	70.0	71.5	74.6	80.0	78.5	74.8	72.8
	2	72.0	71.0	72.0	75.0	78.0	79.0	75.0	72.5
	3	71.5	70.5	71.0	72.0	73.5	72.5	69.5	68.5
	4	66.5	67.2	65.0	67.0	70.5	71.0	71.0	69.6
	5	66.5	66.0	61.0	69.7	72.4	74.0	76.0	70.0
	6	69.1	70.0	71.0	74.8	76.5	77.0	76.0	73.6
	7	72.5	72.0	72.8	74.5	76.3	77.0	76.4	74.2
	8	73.0	71.0	68.6	72.0	75.5	75.0	76.5	73.5
	9	70.2	68.0	67.8	71.5	73.5	. .	77.0	73.0
	10	73.5	71.5	70.8	76.8	78.5	81.0	80.2	73.0
	11	72.0	70.5	70.0	74.0	79.5	79.2	74.2	73.6
	12	72.8	72.0	70.2	74.0	77.0	80.0	79.0	76.3
	13	74.5	72.5	72.0	75.8	80.5	79.5	80.0	75.2
	14	74.0	74.0	74.5	76.5	74.0	80.0	79.5	76.4
	15	74.0	72.5	70.5	76.5	78.5	79.5	75.2	74.5
	16	75.5	74.3	78.0	76.7	79.7	80.0	79.0	76.0
	17	76.5	76.0	76.2	78.7	80.5	80.0	77.4	76.5
	18	73.0	73.0	72.0	70.5	73.5	73.5	72.7	73.0
	19	73.0	72.8	68.0	74.0	72.0	71.7	70.5	70.5
	20	70.0	68.5	69.0	71.0	71.3	70.0	69.5	68.0
	21	67.6	68.0	65.5	68.0	72.7	75.5	73.7	70.5
	22	70.0	69.0	72.0	74.5	76.0	76.0	71.4	70.2
	23	70.0	69.2	67.8	67.7	78.7	72.5	72.4	68.2
	24	68.5	69.0	67.0	71.0	76.5	77.5	75.4	73.0
	25	72.5	69.6	68.5	73.5	77.5	75.5	75.0	72.0
	26	72.0	68.0	67.0	67.0	69.0	74.2	77.8	75.0
	27	73.0	71.0	67.0	70.5	69.5	70.3	66.3	67.0
	28	63.5	63.0	62.0	63.2	65.0	66.6	66.0	63.2
	29	63.0	60.0	59.5	65.5	76.6	63.8	63.8	60.2
	30	59.0	59.0	56.5	60.5	62.5	63.6	63.5	62.0
	31	55.0	54.0	53.0	59.8	62.8	60.0	60.5	58.2
Hourly means.		70.18	69.13	68.41	71.51	74.45	74.46	73.46	71.97

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
September 1	56.5	54.5	52.5	59.7	62.3	64.5	62.5	61.2
2	58.7	56.0	54.0	63.0	64.3	66.9	63.0	59.8
3	60.5	61.0	62.0	63.0	62.7	65.5	62.8	64.5
4	66.0	65.8	65.5	66.5	69.0	71.2	70.5	68.5
5	70.0	69.5	70.0	68.8	73.2	70.5	65.2	63.0
6	60.8	60.0	59.0	57.7	58.7	58.0	57.5	57.0
7	56.2	54.2	52.0	58.0	63.4	64.0	61.0	57.0
8	54.5	52.4	50.0	58.0	59.5	59.8	58.5	58.2
9	58.0	58.5	57.5	59.4	64.2	67.0	67.3	63.0
10	62.0	62.5	62.5	65.5	67.8	68.6	68.5	66.4
11	65.2	64.0	64.5	65.0	70.0	68.2	59.5	59.0
12	57.4	56.5	53.5	54.0	53.2	56.7	53.5	52.0
13	52.0	51.0	50.0	54.8	58.4	60.0	58.5	55.0
14	53.2	51.0	50.2	57.8	58.0	60.0	60.4	59.8
15	59.8	58.5	58.0	63.0	63.7	66.8	64.3	60.5
16	58.0	57.0	53.0	57.0	58.0	60.2	58.5	56.5
17	53.2	51.5	50.5	57.0	65.5	68.4	62.3	58.0
18	59.0	58.4	58.2	62.0	63.2	66.0	63.5	63.5
19	63.0	60.5	59.0	57.0	58.5	60.0	57.0	54.0
20	52.0	49.0	48.0	54.0	63.5	66.2	64.0	60.0
21	58.6	56.5	55.0	60.0	69.0	72.0	68.5	66.0
22	65.0	62.5	62.5	63.5	68.0	69.2	66.0	66.2
23	65.0	65.4	64.5	66.7	68.0	69.0	67.3	67.0
24	67.5	69.5	69.7	72.3	73.5	71.5	66.0	60.0
25	52.5	48.0	. .	47.7	52.2	53.0	51.2	48.8
26	47.5	48.0	46.0	53.5	60.8	65.0	60.5	57.0
27	55.0	55.0	53.5	58.6	66.9	67.0	63.5	62.5
28	60.2	60.5	62.5	67.0	68.3	71.0	69.5	67.2
29	66.5	65.5	66.0	70.5	73.5	71.0	69.0	68.0
30	68.0	69.5	68.5	65.6	64.0	67.2	60.5	54.5
Hourly means.	59.39	58.41	57.87	60.89	64.04	65.48	62.68	60.47

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
October 1	51.0	49.0	49.0	50.6	53.2	55.2	56.0	56.0
2	58.0	57.5	59.0	61.2	63.5	66.5	64.0	62.0
3	60.3	58.0	57.6	59.8	62.0	63.7	63.0	60.0
4	60.0	60.0	61.5	63.8	66.6	68.0	67.5	67.0
5	64.5	64.6	65.0	66.5	67.5	70.5	68.4	67.5
6	67.0	66.5	67.5	70.6	74.4	69.0	68.0	67.0
7	65.5	63.0	61.0	59.7	62.7	66.5	62.0	61.2
8	60.6	52.0	48.0	46.6	47.5	44.5	40.5	40.0
9	38.4	37.5	37.0	38.5	41.5	40.5	37.5	35.5
10	35.1	32.2	31.4	41.2	51.0	55.2	49.2	47.2
11	46.5	44.5	43.5	50.4	64.8	54.5	51.6	46.5
12	45.0	43.5	43.2	48.6	58.6	54.5	52.5	48.2
13	47.5	43.0	41.0	43.8	45.5	46.8	43.4	42.0
14	40.5	38.5	37.0	43.8	51.5	50.8	49.0	46.5
15	46.0	45.0	44.3	51.8	55.5	56.0	52.5	51.6
16	51.6	48.5	48.0	49.6	52.5	51.2	47.0	48.0
17	44.2	41.0	39.0	46.0	52.0	52.4	49.0	46.0
18	44.0	40.0	39.0	44.5	56.8	56.2	54.0	50.0
19	41.5	38.5	37.5	49.2	47.7	49.2	46.0	44.5
20	44.6	42.0	40.0	43.6	46.2	48.3	47.0	42.0
21	37.0	36.5	37.5	44.1	49.6	53.2	47.8	46.8
22	46.3	43.2	41.2	40.5	42.0	41.6	39.5	39.0
23	38.5	37.5	37.5	45.0	48.5	49.0	47.2	43.6
24	42.3	41.4	39.8	45.2	51.5	50.3	48.0	46.8
25	46.0	40.0	36.0	46.5	54.2	52.7	46.8	43.0
26	40.2	38.6	36.0	43.5	52.6	51.2	48.5	47.2
27	47.0	47.5	48.0	51.0	57.0	55.0	54.5	56.5
28	57.5	55.5	52.0	48.6	49.2	48.5	45.0	44.8
29	43.0	42.5	42.0	46.0	50.5	50.0	47.0	43.0
30	40.2	37.5	35.0	42.5	48.2	49.5	46.0	42.0
31	39.8	36.0	34.5	42.5	47.4	46.0	43.6	42.5
Hourly means.	48.05	45.84	44.81	49.20	53.93	53.76	51.03	49.16

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
November 1	42.8	42.0	38.5	41.0	43.0	44.6	41.0	36.5
2	34.0	32.8	34.5	38.5	39.8	39.7	38.2	37.0
3	38.5	38.0	38.0	38.2	41.0	41.6	40.5	43.0
4	43.9	44.5	46.0	47.0	50.4	49.5	44.0	40.5
5	38.6	39.0	39.0	39.0	37.2	36.5	34.5	32.0
6	29.5	27.5	27.0	34.5	47.0	48.0	44.2	43.5
7	44.5	49.0	49.5	52.2	54.5	55.2	54.8	56.3
8	55.8	56.0	56.3	58.2	61.0	60.0	60.0	58.9
9	61.4	60.0	60.0	62.0	64.5	65.0	63.0	63.5
10	62.6	64.0	65.0	59.0	58.0	53.0	47.2	45.0
11	41.5	40.0	39.0	40.5	44.0	46.5	42.3	42.6
12	39.0	39.0	39.0	42.5	49.5	46.0	40.4	35.6
13	35.2	33.7	31.3	33.5	34.6	32.5	31.4	30.2
14	28.0	26.6	28.5	31.0	33.0	34.5	30.5	29.0
15	27.0	26.0	27.0	32.0	37.5	42.5	41.5	37.2
16	34.5	33.0	31.0	35.2	43.7	43.0	38.3	35.5
17	37.0	37.0	38.5	41.0	45.4	45.6	45.0	45.0
18	46.0	46.0	47.8	50.0	52.5	51.3	48.0	46.4
19	45.5	44.2	43.0	39.2	43.5	43.7	39.5	36.5
20	37.5	37.6	37.8	40.5	41.8	43.8	43.6	43.5
21	44.0	43.5	43.0	43.5	44.6	45.0	44.8	44.0
22	38.4	33.5	32.8	30.0	31.5	30.5	29.6	29.5
23	25.8	23.2	22.0	. .	. .	. .	. .	. .
24	. .	. .	. .	. .	37.2	37.8	32.4	38.5
25	. .	. .	. .	27.5	38.6	40.6	36.2	34.0
26	33.0	32.5	31.0	35.0	41.8	42.5	40.0	40.0
27	39.5	36.0	34.2	37.4	48.5	48.2	43.0	41.0
28	33.8	36.0	39.5	43.2	49.1	53.0	50.0	49.6
29	49.0	49.5	49.0	54.5	60.2	61.5	56.0	53.0
30	53.6	51.5	49.5	51.0	56.5	60.0	49.2	45.3
Hourly means.	40.71	40.06	39.92	42.04	45.51	46.26	43.07	41.81

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
December 1	42.0	39.0	40.5	42.1	46.6	46.8	44.5	42.5
2	40.5	40.0	40.0	41.7	46.7	47.0	48.0	48.0
3	47.5	47.2	48.7	50.0	55.0	57.4	55.9	54.0
4	43.0	40.4	38.0	38.5	39.5	40.3	36.4	32.5
5	30.5	30.2	27.0	33.5	39.6	41.5	41.0	38.5
6	36.0	36.0	36.5	41.5	48.0	50.0	46.0	41.0
7	37.8	38.2	39.8	43.0	51.2	54.2	54.0	55.5
8	48.5	40.0	30.0	28.0	27.6	29.5	28.0	24.8
9	19.5	18.8	16.0	18.0	23.6	24.0	24.0	24.0
10	. .	. .	. .	. .	. .	32.0	31.2	31.4
11	31.0	30.7	32.0	32.3	33.0	34.0	32.4	23.5
12	11.5	10.8	11.8	17.5	23.0	22.5	19.6	17.5
13	. .	. .	. .	. .	27.0	27.0	29.0	29.5
14	32.0	32.5	34.5	36.5	38.0	42.5	38.0	38.0
15	35.0	. .	. .	. .	26.8	27.0	28.0	29.5
16	29.0	27.5	28.2	30.8	32.5	34.5	33.0	32.0
17	32.2	32.5	33.2	34.0	36.3	38.6	37.6	35.0
18	36.5	34.5	32.6	34.7	38.5	37.8	35.2	35.5
19	36.0	36.2	36.3	40.0	44.0	46.4	48.4	40.7
20	34.8	28.0	26.5	. .	. .	. .	. .	25.4
21	26.5	28.0	28.7	31.0	32.0	32.0	32.4	30.0
22	27.4	26.8	26.0	25.0	. .	. .	. .	. .
23	.	. .	. .	. .	. .	22.5	22.0	21.5
24	23.0	24.0	25.0	27.0	33.5	33.5	32.5	27.0
25	24.0	22.0	20.0	23.0	34.0	38.0	34.5	35.0
26	35.0	35.5	35.5	36.4	39.8	40.5	37.6	36.0
27	36.3	35.9	35.5	36.5	38.8	41.0	41.0	41.5
28	41.8	42.5	42.0	42.5	46.8	47.5	45.8	42.0
29	38.2	35.0	32.0	29.6	30.4	30.3	28.5	27.5
30	26.8	27.5	27.0	30.0	34.3	36.0	33.5	36.0
31	34.0	32.5	32.8	33.2	33.5	28.0	27.6	24.0
Hourly means.	33.44	32.30	31.71	33.70	37.07	37.32	36.06	33.98

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
January	1	44.0	46.0	46.0	48.0	72.0	73.0	71.0	12.0
	2	8.0	8.0	7.0	36.0	62.0	65.2	65.5	24.0
	3	15.0	12.0	10.0	29.0	74.0	77.0	67.0	40.0
	4	. .	30.0	28.0	35.0	38.0	39.0	32.0	27.0
	5	24.0	24.0	24.0	35.0	49.8	70.0	69.0	42.0
	6	20.0	19.0	18.0	32.0	44.5	49.0	45.0	28.0
	7	16.0	12.0	. .	43.0	73.0	53.0	43.0	20.0
	8	. .	. .	. .	. .	79.0	79.0	54.0	19.2
	9	18.0	16.0	14.0	54.0	66.0	65.0	57.0	. .
	10	. .	10.0	10.5	39.0	71.0	78.5	67.0	22.5
	11	20.0	16.0	12.0	41.0	71.2	77.5	. .	. .
	12	31.0	16.0	11.2	47.0	77.0	. .	77.0	21.5
	13	20.0	18.0	18.0	28.0	48.0	51.5	40.0	33.0
	14	29.0	20.0	20.0	21.0	74.5	82.0	55.0	33.5
	15	34.0	32.0	30.0	37.0	46.0	78.0	78.0	48.0
	16	44.0	32.0	28.0	58.5	75.0	80.0	74.0	29.0
	17	30.0	26.0	24.0	38.0	57.0	77.0	55.0	38.0
	18	33.0	34.0	38.0	41.0	42.0	43.0	43.0	39.0
	19	38.0	44.0	46.0	63.0	83.0	61.0	52.0	40.0
	20	31.0	31.0	31.2	53.0	67.0	80.0	75.0	33.2
	21	33.5	30.0	30.0	38.0	74.0	78.0	48.0	36.0
	22	34.0	34.0	33.8	41.0	83.0	84.0	78.0	35.0
	23	32.0	28 0	24.0	53.8	83.2	89.0	79.0	48.0
	24	41.0	36.0	34.0	70.0	90.0	79.0	84.7	51.0
	25	48.7	44.0	39.0	55.0	104.7	104.6	105.0	48.0
	26	38.0	40.0	42.0	74.5	92.0	94.5	90.0	47.5
	27	38.0	32.0	28.0	62.7	92.5	98.0	60.0	50.0
	28	43.0	35.0	32.0	72.0	102.0	106.0	102.4	53.0
	29	48.0	40.0	30.0	54.0	97.0	98.4	102.0	50.0
	30	40.0	39.0	39.8	42.0	46.0	48.0	39.8	38.0
	31	39.0	38.0	36.0	41.3	56.0	61.0	48.0	46.0
Hourly means.		31.79	28.06	27.05	46.09	70.66	73.97	65.21	36.29

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
February	1	41.0	39.5	39.0	42.0	45.0	51.0	51.0	45.5
	2	45.0	40.0	40.0	45.5	71.5	71.5	63.0	38.0
	3	33.0	38.0	36.2	36.0	54.0	69.0	67.0	30.0
	4	26.0	24.0	22.0	58.0	65.4	84.5	80.0	45.0
	5	38.0	38.0	36.0	67.0	89.0	89.0	85.0	41.4
	6	40.0	38.0	38.0	42.0	52.2	52.5	52.0	44.0
	7	40.0	39.5	39.0	42.0	53.0	84.0	78.0	40.0
	8	36.0	32.0	30.0	70.0	69.0	82.0	78.0	40.0
	9	32.0	33.0	24.0	62.5	77.0	87.0	80.0	30.0
	10	26.0	22.0	20.0	58.0	79.0	. .	. .	30.0
	11	. .	18.0	12.0	57.5	76.0	80.0	75.0	30.0
	12	28.0	26.0	26.0	56.3	67.5	85.0	70.0	40.0
	13	30.0	27.0	26.0	65.5	94.0	96.0	90.0	38.0
	14	33.0	32.0	30.0	69.5	93.0	93.0	90.0	40.0
	15	34.8	25.0	24.0	38.0	49.0	48.0	37.2	33.0
	16	32.0	30.0	30.0	41 5	79.0	79.0	72.0	20.0
	17	10.0	7.0	6.0	30.0	49.0	70.0	59.0	6.0
	18	3.5	3.0	3.0	39.0	64.5	69.0	62.0	. .
	19	. .	9.0	4.5	4.5	68.0	70.0	66.0	13.5
	20	11.0	10.0	8.0	59.0	78.0	85.0	78.0	44.0
	21	28.0	29.0	22.0	58.5	75.5	80.0	74.0	39.0
	22	38.0	33.0	29.0	49.8	55.7	78.0	77.5	43.0
	23	37.0	35.2	32.0	74.0	110.0	110.0	100.0	50.0
	24	47.0	46.0	44.0	84.0	102.0	97.0	90.0	44.0
	25	36.0	29.0	30.0	43.0	72.5	88.0	88.0	49.0
	26	49.0	35.0	33.0	67.0	82.0	87.3	. .	33.0
	27	28.5	26.0	24.0	70.0	93.0	97.0	80.0	42.0
	28	38.0	38.0	36.0	65.0	86.0	86.2	81.0	55.5
	29	57.0	56.0	50.0	50.0	58.0	49.0	48.0	41.5
Hourly means.		31.03	29.60	27.37	54.67	72.68	79.21	73.03	37.3

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
March	1	39.0	. .	. .	36.0	44.0	39.0	33.0	. .
	2	36.0	31.0	. .	74.0	92.0	91.0	75.8	35.0
	3	29.0	26.0	22.0	70.0	87.0	93.2	88.0	33.0
	4	29.0	27.0	27.0	69.0	95.5	98.0	84.0	48.0
	5	44.0	44.0	46.0	59.0	60.0	55.0	95.0	45.0
	6	36.0	34.0	37.0	51.0	52.0	58.0	54.0	40.0
	7	37.0	32.0	30.0	70.0	93.0	95.0	91.0	45.0
	8	. .	32.0	37.0	42.0	45.5	53.0	68.0	37.0
	9	34.0	28.0	26.0	75.0	93.3	95.5	95.0	46.0
	10	38.0	36.0	38.0	44.2	53.0	. .	. .	48.0
	11	44.0	44.0	45.0	46.0	50.0	50.0	. .	. .
	12	45.0	36.0	32.0	89.8	104.4	104.3	. .	60.0
	13	42.0	39.0	35.0	83.3	93.4	101.0	. .	90.0
	14	42.0	40.0	37.0	73.0	93.6	97.5	. .	. .
	15	38.0	34.0	32.0	80.6	103.2	76.0	55.0	33.0
	16	28.0	26.0	22.0	66.0	83.5	69.5	50.2	30.0
	17	28.0	26.0	25.0	73.0	88.0	99.0	78.0	36.0
	18	33.0	32.5	32.0	78.0	92.0	95.0	85.5	50.0
	19	45.0	36.0	33.9	59.5	94.0	94.0	85.0	43.0
	20	39.0	35.0	25.0	75.0	94.5	95.0	87.0	39.0
	21	29.5	22.0	19.0	60.0	68.0	81.0	75.0	28.0
	22	20.0	18.0	18.2	35.0	47.0	41.0	34.0	27.0
	23	. .	. .	. .	67.0	84.0	84.6	78.0	39.0
	24	24.0	24.0	23.5	72.0	89.0	95.5	90.0	47.0
	25	32.5	31.0	30.0	47.5	70.4	52.0	50.0	45.0
	26	42.0	41.0	37.0	54.0	69.5	59.0	54.0	43.0
	27	40.0	38.0	35.0	83.0	98.0	102.0	95.0	51.0
	28	40.0	34.0	32.5	77.0	98.0	101.0	81.0	49.0
	29	42.5	40.0	37.0	54.0	63.0	55.0	54.0	44.0
	30	. .	40.0	36.0	39.0	56.0	63.0	49.6	39.0
	31	38.0	36.0	36.0	63.2	79.8	87.0	59.0	44.0
Hourly means.		36.23	33.19	31.26	63.45	78.60	82.27	70.95	43.36

Mean time.		0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.		°	°	°	°	°	°	°	°
April	1	44.0	39.5	37.0	73.0	87.0	75.0	49.6	42.0
	2	41.0	36.0	35.0	35.5	39.5	44.0	44.0	37.0
	3	36.0	37.0	42.0	60.0	78.0	83.0	86.0	62.0
	4	47.0	44.0	32.0	71.0	65.8	60.0	52.0	38.0
	5	36.0	37.0	36.5	38.0	41.0	43.5	45.0	39.5
	6	39.0	38.0	39.0	67.0	102.0	103.0	96.0	60.0
	7	. .	40.0	36.5	85.0	101.5	94.0	100.0	57.0
	8	40.0	32.0	35.0	96.0	103.5	105.0	102.0	60.0
	9	46.0	46.0	46.0	56.0	60.0	55.0	52.0	46.8
	10	49.0	49.2	53.0	68.2	103.0	120.0	101.5	60.0
	11	50.0	48.0	45.0	62.0	89.0	. .	. .	55.0
	12	45.0	39.0	35.0	86.8	106.8	112.3	. .	72.0
	13	48.0	47.0	47.0	91.0	108.0	. .	. .	. .
	14	41.0	40.0	39.0	93.0	107.0	89.0	62.0	49.0
	15	43.0	38.0	36.0	80.0	92.0	90.0	72.0	51.5
	16	45.0	42.0	45.0	48.0	59.0	56.5	50.0	43.0
	17	41.0	39.5	41.5	73.5	98.5	101.0	95.0	55.0
	18	38.0	35.0	32.0	92.0	104.0	116.5	113.0	62.0
	19	39.0	35.0	38.0	80.0	105.0	106.5	84.0	62.0
	20	44.0	40.0	39.0	87.5	82.0	71.0	69.0	45.0
	21	40.0	39.0	41.5	87.0	120.0	113.0	101.0	55.0
	22	37.0	33.0	32.0	87.0	107.0	107.0	101.0	56.0
	23	50.0	49.5	51.0	103.0	117.0	116.0	110.0	69.8
	24	60.0	58.0	57.0	100.0	104.0	107.0	79.0	65.0
	25	65.0	62.0	61.0	95.0	120.0	127.0	109.0	63.0
	26	55.0	52.0	50.0	113.0	114.0	115.0	101.0	59.0
	27	48.0	46.0	56.0	102.5	117.0	124.0	118.0	65.0
	28	55.0	45.0	37.0	89.0	109.0	112.5	103.0	52.0
	29	. .	39.0	33.0	98.0	115.0	114.0	100.0	55.0
	30	50.0	45.0	42.0	85.0	110.0	100.0	61.0	55.0
Hourly means.		45.43	42.36	41.50	80.10	95.52	95.03	83.56	54.5

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
May 1	55.0	52.0	53.0	58.4	113.0	116.0	97.0	55.0
2	48.0	46.0	45.0	82.0	97.0	107.5	99.0	54.0
3	. .	41.2	36.0	82.0	110.0	105.0	105.0	52.0
4	43.0	42.0	42.0	94.0	112.0	114.0	106.0	59.0
5	43.0	42.0	42.2	101.0	118.0	119.5	113.5	68.0
6	49.0	44.0	46.0	101.5	124.0	126.0	120.5	72.5
7	52.0	54.0	56.0	102.0	130.0	129.0	122.0	73.0
8	57.0	52.0	. .	112.0	130.0	130.0	127.0	76.0
9	64.0	58.0	61.0	107.0	127.5	128.0	116.0	73.0
10	66.0	62.0	62.0	105.0	121.0	125.0	120.0	77.0
11	75.0	70.0	67.0	103.0	125.0	119.0	98.0	61.0
12	58.0	54.0	59.0	70.0	92.0	95.0	108.0	64.0
13	62.0	62.0	64.0	67.5	89.5	109.0	87.3	66.0
14	62.0	61.0	61.5	104.0	109.0	119.0	119.0	74.0
15	66.0	63.0	66.0	98.5	108.5	105.0	97.0	62.0
16	55.0	54.0	62.0	107.0	103.0	127.0	113.0	72.0
17	58.0	56.0	61.0	71.0	88.0	120.0	115.0	76.0
18	58.0	55.0	60.0	86.0	124.9	128.0	. .	. .
19	60.0	59.0	61.0	72.0	123.0	127.0	99.0	69.0
20	58.0	55.0	60.0	94.0	125.0	125.5	117.0	73.0
21	54.0	53.0	67.0	110.0	125.0	128.0	114.0	76.0
22	66.5	64.0	67.0	110.0	124.0	125.0	118.0	74.0
23	64.0	58.0	61.0	107.0	118.0	125.0	116.0	76.0
24	69.0	66.0	71.0	98.0	124.3	127.0	121.0	80.0
25	76.0	68.0	64.5	110.0	127.0	128.0	117.0	75.0
26	64.0	63.0	63.0	68.0	74.8	83.2	82.0	69.0
27	62.0	62.0	62.5	107.0	123.0	127.0	116.0	73.0
28	62.0	59.0	59.0	102.0	122.0	125.5	97.0	68.0
29	68.0	59.0	50.0	99.0	113.0	114.0	112.0	78.0
30	58.0	55.0	59.0	104.7	121.0	124.0	119.0	84.0
31	61.0	57.0	58.0	110.0	130.0	130.0	124.0	84.0
Hourly means.	59.78	56.33	58.22	95.02	115.24	119.71	110.51	70.45

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
June 1	62.0	59.0	60.0	101.0	129.0	131.8	123.0	85.0
2	68.0	64.0	65.0	95.0	109.0	87.0	69.0	65.0
3	60.0	57.0	55.0	106.0	114.0	123.0	117.0	76.0
4	55.0	54.0	58.0	92.0	117.0	118.0	100.3	75.0
5	62.0	60.0	64.0	82.5	108.0	112.0	112.0	79.0
6	67.0	63.0	64.0	115.0	126.0	130.0	125.0	67.0
7	61.0	63.0	60.0	104.0	114.6	116.0	114.0	73.0
8	55.0	52.0	60.7	102.5	109.0	113.0	110.0	74.0
9	69.0	67.0	69.0	97.5	128.0	132.0	124.0	82.0
10	65.0	62.0	67.0	99.5	113.5	115.5	112.0	74.0
11	68.0	59.0	58.5	101.0	115.0	116.0	104.0	74.0
12	60.0	54.0	50.0	105.0	120.0	124.0	118.0	70.0
13	48.0	44.0	47.0	113.0	125.0	128.0	113.0	70.0
14	48.0	44.0	52.0	72.0	80.0	111.0	108.5	80.0
15	51.0	49.0	49.0	105.0	123.0	125.0	122.0	95.0
16	60.0	58.0	59.0	103.0	125.0	124.0	121.0	87.0
17	63.0	61.0	63.0	115.0	131.0	133.0	126.0	78.0
18	68.0	62.0	61.0	96.0	120.0	120.0	114.5	88.0
19	67.0	58.0	62.0	116.0	117.0	128.0	106.0	72.0
20	63.0	58.0	65.0	93.0	122.0	125.0	128.0	89.0
21	57.0	54.0	57.0	113.0	128.0	129.2	124.0	83.0
22	65.0	56.0	61.0	100.0	118.0	120.0	115.0	93.0
23	65.0	61.0	67.0	112.0	132.0	131.0	130.0	101.0
24	73.0	70.0	74.0	115.2	133.5	133.8	132.3	. .
25	75.0	72.0	75.0	123.0	138.7	139.0	103.0	. .
26	76.0	68.0	79.0	126.0	140.0	145.5	95.0	90.0
27	73.0	70.0	73.0	119.0	140.0	142.0	129.0	80.0
28	66.0	54.0	56.0	108.0	121.5	125.0	116.0	95.0
29	58.2	54.0	58.0	111.5	126.5	137.0	109.0	80.0
30	67.0	56.0	64.0	110.0	127.0	92.0	96.5	84.0
Hourly means.	63.17	58.77	61.77	108.39	121.71	123.56	113.90	80.68

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
July 1	68.0	67.0	70.0	107.5	127.5	131.0	131.0	87.0
2	75.0	68.0	76.0	126.0	134.5	97.0	97.5	80.0
3	70.0	69.0	71.0	117.0	137.0	133.0	103.0	79.5
4	70.0	68.0	74.2	108.0	117.0	105.0	113.0	93.0
5	60.0	59.0	58.0	113.0	129.8	127.8	124.0	75.0
6	70.0	60.0	65.0	122.0	138.0	133.0	125.0	80.0
7	78.0	73.0	71.0	127.0	122.0	118.0	122.0	82.0
8	73.0	70.0	77.0	124.5	122.5	113.5	100.0	84.0
9	70.0	69.0	74.0	110.0	136.5	134.0	109.0	80.0
10	70.0	68.0	72.0	121.0	140.0	122.0	89.0	80.0
11	74.0	73.5	76.0	104.0	93.5	89.6	89.8	82.0
12	80.0	68.0	70.0	128.0	133.5	84.0	108.0	73.0
13	72.5	72.0	73.0	92.0	135.0	124.0	103.0	69.0
14	68.0	64.0	64.0	106.0	135.5	118.5	103.0	67.0
15	64.8	61.0	66.0	111.0	122.0	124.6	99.0	66.0
16	60.0	55.0	58.5	103.5	125.0	125.0	98.5	62.0
17	56.0	54.0	60.0	112.0	132.0	128.0	100.0	65.0
18	60.0	58.0	59.0	98.5	133.0	129.0	78.0	66.0
19	60.2	56.0	68.0	107.0	129.0	107.0	93.0	74.0
20	70.0	68.0	74.0	108.5	127.0	130.0	86.0	72.0
21	70.8	69.0	67.0	82.0	124.0	92.0	83.5	66.0
22	58.0	49.0	54.0	99.0	105.0	103.0	74.5	55.0
23	53.0	50.0	49.5	95.0	118.0	119.0	86.0	56.0
24	52.0	49.0	51.0	102.0	106.0	99.0	72.0	64.0
25	60.0	58.0	58.0	64.2	84.6	99.0	75.0	60.0
26	58.0	56.0	60.0	108.0	127.0	122.0	89.0	68.0
27	65.0	63.0	66.0	102.0	122.0	113.0	82.0	68.0
28	64.0	64.0	70.0	111.0	121.0	131.0	92.0	70.0
29	67.0	62.0	65.5	107.0	132.0	132.5	95.0	72.0
30	68.0	67.5	76.0	116.0	133.0	140.0	102.0	75.0
31	73.0	68.0	72.0	104.0	142.0	139.0	95.5	78.0
Hourly means.	66.40	63.10	66.64	107.64	125.32	118.18	97.36	72.53

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864	°	°	°	°	°	°	°	°
August 1	76.0	74.0	76.0	111.0	131.0	142.5	97.0	76.0
2	69.0	68.0	73.0	96.0	127.0	127.0	76.0	70.0
3	70.0	68.0	73.0	101.5	117.0	112.0	101.2	68.0
4	66.2	66.0	70.0	96.5	131.5	135.0	104.0	76.0
5	63.0	62.0	62.5	114.0	. .	134.0	99.5	73.0
6	70.0	69.2	70.0	97.2	101.2	85.0	93.0	72.0
7	68.0	66.0	74.0	96.0	114.0	114.0	85.5	75.0
8	72.0	70.0	72.0	100.0	128.0	125.0	89.0	70.0
9	66.0	64.0	68.0	103.5	131.0	128.0	94.0	72.0
10	71.0	70.0	70.0	125.0	140.0	137.0	100.0	75.0
11	70.0	68.0	71.8	122.0	141.0	135.0	86.0	75.0
12	72.0	71.0	69.0	109.0	136.0	137.0	103.0	76.0
13	74.0	70.0	71.0	124.0	138.0	140.0	93.0	74.0
14	76.0	75.5	75.0	103.0	146.0	100.0	98.0	75.0
15	73.0	70.0	70.0	100.0	112.0	111.5	76.0	72.0
16	75.0	74.0	76.0	106.5	116.7	96.3	82.0	76.0
17	75.0	75.2	77.5	125.4	131.5	99.5	79.0	76.0
18	71.0	70.4	71.0	78.5	98.9	96.2	75.5	71.2
19	76.0	75.5	69.0	81.5	102.5	95.5	75.5	71.0
20	70.0	69.0	69.0	82.4	85.7	86.5	88.5	71.0
21	69.0	68.0	67.0	89.0	103.5	120.0	81.0	69.0
22	68.5	68.0	74.0	95.5	106.0	95.0	71.4	69.5
23	69.0	68.0	67.0	107.0	126.0	133.8	76.0	68.0
24	67.5	67.0	65.5	97.0	120.5	129.5	75.0	70.0
25	70.0	67.0	68.0	89.0	136.5	93.0	75.5	72.0
26	70.0	65.0	66.0	111.0	125.0	124.5	80.0	75.0
27	72.5	70.2	67.0	78.0	129.0	103.5	77.8	69.0
28	61.0	59.0	62.0	111.0	98.0	87.2	71.8	62.0
29	60.8	58.5	60.0	112.0	128.0	94.5	76.5	60.0
30	56.5	54.5	53.8	107.0	124.0	124.0	74.5	62.0
31	56.0	52.0	54.0	84.2	103.5	120.8	68.0	56.0
Hourly means.	69.21	67.52	68.78	101.73	120.80	114.93	84.62	70.86

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
September 1	54.0	52.2	49.0	108.8	123.2	129.2	71.7	59.0
2	55.0	52.0	51.0	107.5	122.5	129.2	66.0	58.0
3	59.0	60.0	62.0	70.0	76.5	77.8	68.0	67.0
4	65.5	66.0	67.0	73.7	82.3	94.7	73.0	65.0
5	66.0	68.0	69.0	80.5	109.0	91.7	65.0	62.0
6	61.0	59.5	59.0	62.3	63.5	67.2	57.8	57.0
7	56.5	54.0	50.0	105.0	122.0	105.5	65.0	53.0
8	51.0	48.0	46.0	106.0	103.0	68.0	59.0	58.0
9	58.0	57.5	59.0	78.0	127.0	120.0	70.0	58.5
10	57.2	57.5	60.0	79.0	98.0	93.0	67.5	63.2
11	63.0	62.0	63.0	72.0	119.0	93.5	60.0	56.5
12	55.5	55.5	53.7	64.0	76.0	93.5	54.5	50.0
13	49.0	48.0	48.0	47.3	114.0	104.0	60.5	56.0
14	53.0	48.7	48.0	85.0	69.0	83.0	60.0	58.5
15	59.0	58.5	58.0	101.2	123.7	123.7	68.5	62.0
16	58.0	56.2	51.0	104.0	94.0	113.0	57.2	52.0
17	48.5	48.0	47.0	104.0	120.4	123.5	59.0	52.0
18	56.0	54.2	53.0	98.0	81.0	83.0	64.0	62.0
19	60.0	58.5	57.0	84.5	120.0	108.0	55.5	50.0
20	47.0	46.0	45.0	100.0	108.0	115.0	60.0	57.0
21	52.0	53.0	55.0	88.0	128.0	100.0	67.0	66.0
22	64.0	62.0	60.0	108.0	120.0	113.0	68.0	66.0
23	60.0	59.5	64.0	80.0	91.8	88.0	68.0	67.0
24	68.0	70.0	69.0	86.0	134.5	93.0	69.0	55.0
25	54.0	49.0	. .	94.2	102.0	100.0	52.0	49.0
26	44.0	42.0	41.5	103.5	125.0	107.0	56.5	51.0
27	50.8	45.0	46.5	106.0	128.3	138.0	61.5	60.0
28	54.0	53.0	56.0	92.0	84.6	92.0	69.0	65.0
29	65.5	65.0	66.0	102.0	117.0	101.5	72.0	68.0
30	69.0	68.0	67.0	73.5	86.0	97.0	63.5	97.0
Hourly means.	57.12	56.23	59.33	88.80	105.64	101.53	63.62	60.02

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
October 1	53.5	50.0	51.0	60.3	60.5	57.0	58.0	58.0
2	58.0	57.5	59.0	70.0	108.0	102.0	63.0	62.0
3	60.0	58.5	57.5	71.0	71.5	69.7	63.5	60.0
4	59.8	59.5	63.0	74.0	92.0	77.0	67.0	64.0
5	64.0	64.5	65.0	70.0	70.5	95.0	69.0	68.0
6	66.0	65.5	68.5	102.0	127.5	79.2	68.0	65.2
7	65.0	60.0	57.0	102.0	122.5	94.0	61.0	57.6
8	59.0	54.2	51.0	68.0	108.0	108.0	43.5	40.0
9	38.0	37.0	35.0	61.0	75.0	65.2	36.5	32.0
10	29.0	25.0	25.0	85.0	108.0	91.0	46.0	45.0
11	44.0	41.0	39.0	95.0	118.0	87.0	47.5	43.0
12	39.0	37.8	38.0	60.0	85.0	56.0	52.0	44.0
13	44.0	42.0	39.0	86.0	80.2	90.5	43.0	40.0
14	34.0	33.8	33.5	89.0	107.0	77.0	47.0	41.8
15	41.0	40.0	42.0	93.7	109.0	75.0	49.5	52.0
16	52.5	48.0	44.0	57.0	112.0	95.0	50.5	48.0
17	38.0	38.0	38.0	89.0	110.5	85.0	48.5	44.0
18	39.5	37.0	35.0	64.8	115.5	99.0	47.0	40.0
19	35.5	33.5	32.0	93.0	105.0	82.0	43.0	46.0
20	44.0	39.0	37.0	64.0	69.5	91.2	39.4	38.0
21	33.0	33.0	33.0	83.0	107.0	91.0	43.5	44.0
22	45.0	43.6	39.0	66.0	90.0	75.5	44.0	43.0
23	39.0	37.0	34.0	71.0	95.4	70.0	45.0	41.5
24	38.0	37.5	37.8	77.0	101.5	67.0	51.0	48.5
25	46.2	38.0	35.0	84.7	113.7	97.0	42.0	37.0
26	37.0	35.0	32.2	84.0	106.0	73.0	44.0	44.0
27	44.0	46.0	48.0	58.0	94.0	62.0	54.0	56.0
28	56.0	54.0	49.0	85.0	87.0	88.0	49.0	47.0
29	42.5	41.0	40.0	93.6	97.5	72.0	43.0	38.5
30	37.0	34.5	32.5	76.0	103.0	89.0	41.0	38.0
31	35.0	32.5	31.0	53.0	86.2	62.0	44.0	44.0
Hourly means.	45.68	43.35	42.61	76.97	97.95	81.38	49.85	44.2

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
November 1	45.0	35.0	33.0	78.0	82.0	79.0	40.5	31.8
2	31.5	30.0	34.0	48.0	54.3	45.3	37.5	36.0
3	38.0	37.0	37.0	41.0	49.0	45.0	40.5	42.5
4	43.5	45.0	46.0	55.6	83.7	61.3	46.5	40.0
5	39.0	40.0	40.0	67.0	65.0	76.0	30.7	26.5
6	24.5	24.0	22.0	68.0	93.0	62.7	39.0	43.0
7	45.5	48.0	48.2	54.0	58.5	58.0	54.0	55.0
8	55.1	56.0	56.0	60.8	82.0	65.0	59.0	57.0
9	60.0	59.5	59.0	66.0	78.0	79.5	79.0	65.0
10	64.0	65.0	65.0	60.2	109.0	92.0	48.5	40.0
11	46.0	44.0	37.0	80.5	101.0	86.5	40.5	40.0
12	35.0	36.0	38.0	50.0	90.7	52.2	43.5	34.0
13	34.0	35.3	30.1	74.0	87.0	44.5	35.0	33.0
14	28.0	25.0	28.5	45.0	71.7	70.8	26.0	24.0
15	23.0	24.0	26.5	39.3	49.0	67.0	42.0	39.0
16	36.0	31.0	29.0	83.7	93.0	78.0	33.0	32.0
17	37.0	36.8	38.5	50.2	61.5	55.4	44.5	44.0
18	45.5	46.8	48.0	54.5	56.0	52.0	47.0	45.0
19	44.0	42.5	43.0	42.5	84.0	70.0	33.0	35.0
20	35.0	36.0	37.0	41.0	45.5	45.0	43.0	43.5
21	44.0	43.5	43.0	46.0	49.0	46.8	44.0	43.5
22	37.0	34.0	32.5	39.2	44.3	34.5	29.4	28.2
23	24.0	22.0	19.0	59.5	76.0	60.5	26.0	17.0
24	15.4	14.0	18.0	37.0	83.0	70.0	27.0	23.0
25	21.0	20.0	19.0	63.0	86.0	67.0	34.0	29.5
26	28.0	27.5	27.0	47.5	61.0	53.8	41.5	39.0
27	39.0	35.0	29.0	71.0	99.0	61.0	38.0	36.0
28	32.0	36.0	40.0	64.0	72.3	74.0	49.5	48.0
29	47.0	46.0	46.8	70.3	97.5	93.2	54.2	48.7
30	51.0	49.0	47.6	60.9	105.6	95.4	54.5	48.8
Hourly means.	38.27	37.46	37.26	57.26	75.92	64.71	42.03	38.93

Mean time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
December 1	39.0	37.0	38.0	69.5	96.0	70.0	43.0	43.5
2	39.0	38.5	38.0	54.0	54.8	49.2	47.6	47.5
3	47.5	47.0	48.0	59.0	77.0	62.1	56.0	49.0
4	41.5	36.0	38.0	75.0	82.0	72.2	32.4	29.5
5	26.2	25.0	22.0	63.0	75.5	51.0	41.0	38.5
6	34.0	34.5	35.5	52.0	61.0	68.0	42.6	37.0
7	36.5	38.0	39.5	46.5	58.0	56.0	52.0	52.2
8	50.7	40.0	33.0	49.2	53.0	49.0	32.0	28.0
9	23.0	20.0	14.5	38.0	54.5	32.0	24.0	24.0
10	22.5	28.0	31.0	36.0	49.0	39.0	31.0	31.5
11	30.7	30.8	32.0	37.0	44.0	39.0	32.0	25.0
12	10.0	9.0	10.4	47.8	68.5	45.8	17.5	15.0
13	15.0	16.0	17.2	31.5	65.2	36.0	29.0	29.8
14	34.5	33.0	34.5	41.0	50.0	50.5	39.0	34.6
15	30.0	26.5	26.0	36.0	41.0	32.5	29.0	30.8
16	27.0	26.5	29.0	36.0	49.0	41.0	34.0	32.0
17	32.0	32.5	33.5	37.0	45.5	43.5	38.0	32.0
18	34.0	32.0	30.0	40.0	53.0	43.0	37.0	35.5
19	36.0	35.5	35.8	41.5	48.0	49.0	47.0	43.0
20	36.2	28.0	26.5	42.0	53.7	41.0	22.5	21.2
21	26.5	29.0	28.2	33.0	35.0	38.0	31.5	30.0
22	27.0	26.8	26.5	39.5	54.7	36.0	19.0	16.6
23	14.0	12.5	13.0	48.5	. .	39.0	19.0	19.0
24	22.0	24.0	26.0	38.0	62.0	58.0	28.0	23.0
25	20.0	18.0	17.0	40.5	69.5	61.0	38.0	37.0
26	38.0	36.5	35.5	36.8	52.0	49.0	37.0	36.0
27	36.0	35.5	35.0	42.0	49.5	46.0	41.0	37.9
28	41.8	42.0	42.0	48.2	90.1	59.5	47.0	41.0
29	38.0	34.0	32.0	35.0	41.5	39.0	28.0	24.0
30	25.0	26.0	24.0	54.0	71.3	60.0	35.0	34.0
31	33.0	32.5	32.0	36.0	39.5	31.0	26.0	32.4
Hourly means.	31.18	30.24	29.79	41.40	58.13	47.95	34.71	32.[illegible]

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. Jan. 1	0	E.	1	K.	10	1864. Jan. 2	0	NW.	3	Clear	0	1864. Jan. 3	0	W. NW.	1	C. S.	3
	3	SW.	1	K.	10		3	NW.	2	Clear	0		3	NE.	1	C. K.	8
	6	W.	1	K.	10		6	NW.	2	Clear	0		6	NE.	1	C. S.	4
	9	NW.	4	C. K. S.	9		9	NW.	2	Clear	0		9	S.	1	C. K.	7
	Noon	NW.	4	C. K.	5		Noon	W. SW.	4	Clear	0		Noon	W.	1	C.	8
	3	NW.	5	C.	2		3	W. NW.	2	Clear	0		3	S.	1	C.	3
	6	NW.	5	Clear	0		6	W. SW.	1	C. S.	2		6	SW.	1	C. S.	3
	9	NW.	4	Clear	0		9	W.	1	C. S.	3		9	SW.	1	K.	10
Jan. 4	0	NE.	1	K.	10	Jan. 5	0	E.	1	N.	10	Jan. 6	0	NW.	1	S.	1
	3	N. NE.	1	K.	10		3	E.	1	N.	10		3	NW.	1	C. K.	8
	6	NE.	1	C. K.	10		6	SE.	1	N.	10		6	W.	1	K.	10
	9	NE.	1	C. K.	10		9	S.	1	N.	10		9	NW.	1	C. K.	10
	Noon	NE.	1	N.	10		Noon	W. SW.	1	N.	10		Noon	NW.	1	C. K.	10
	3	NE.	1	N.	10		3	NW.	3	C. K.	3		3	NW.	1	C. K.	10
	6	NE.	1	N.	10		6	NW.	3	Clear	0		6	W.	1	C. S.	4
	9	NE.	1	N.	10		9	NW.	1	Clear	0		9	NW.	1	S.	2
Jan. 7	0	NW.	2	Clear	0	Jan. 8	0	NE.	1	N.	10	Jan. 9	0	N. NW.	2	C.	
	3	NW.	2	C. S.	2		3	N.	1	N.	10		3	NW.	2	C. S.	4
	6	NW.	1	S.	1		6	N.	2	N.	10		6	NW.	1	C.	2
	9	N.	1	C.	10		9	NW.	1	N.	10		9	NW.	1	Clear	0
	Noon	N. NE.	1	C. K.	10		Noon	W. NW.	2		1		Noon	W.	2	Clear	0
	3	N.	1	C. K.	10		3	NW.	1	C. S.	4		3	NW.	2	Clear	0
	6	NE.	1	K.	10		6	NW.	2	C. S.	3		6	W.	1	Clear	0
	9	NE.	1	N.	10		9	NW.	2	C. S.	10		9	W.	1	Clear	0
Jan. 10	0	NE.	1	Hazy		Jan. 11	0	W.	1	C.	2	Jan. 12	0	W.	2	Hazy	0
	3	E.	1	Clear	0		3	W.	1	Clear	0		3	NW.	1	C. S.	2
	6	SE.	1	Clear	0		6	W.	1	Clear	0		6	NW.	1	C.	10
	9	SE.	1	S.	1		9	S.	1	Hazy			9	N.	1	S.	2
	Noon	SE.	1	S.	1		Noon	SE.	1	C.	1		Noon	S. SE.	1		
	3	SE.	1	Clear	0		3	S.	1	Hazy			3				
	6	SW.	1	C. S.	4		6	W.	1	Clear	0		6	SW.	1	C. S.	3
	9	W.	1	C. S.	2		9	NW.	1	Clear	0		9	SW.	1	C. S.	5
Jan. 13	0	SE.	1	C.	1	Jan. 14	0	NW.	1	C.	2	Jan. 15	0	E. NE.	1	N.	
	3	SE.	1	C	6		3	NW.	1	Clear	0		3	NE.	1	Fog	
	6	SE.	1	C. K.	10		6	N.	1	Haze			6	NE.	1	Fog	
	9	NW.	1	C. K.	10		9	NW.	1	C. S.	3		9	E. SE.	1	Fog	
	Noon	SE.	1	C. K.	10		Noon	S.	1	Haze			Noon	S.	1	Fog	
	3	W. NW.	1	K.	10		3	NE.	1	C. K.	6		3	N.	1	C. K.	
	6	S.	1	K.	10		6	E.	1	C. K. S.	3		6	NW.	1	C. S.	
	9	W.	1	K.	10		9	SE.	1	K.	10		9	NW.	1	C. K.	

REMARKS.

January 4. Commenced snowing at 9h. 35m. a. m. Amount, 3¼ inches.
7. Commenced snowing at 8h. p. m.; ceased at 8h. a. m. on the 8th. Amount, 2¼ inches.
15. Commenced raining at midnight.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. Jan. 16	0	NW.	1	C. S.	3	1864. Jan. 17	0	NW.	1	Clear	0	1864. Jan. 18	0	E. NE.	1	K.	10
	3	NW.	1	C. S.	3		3	SW.	1	C.	2		3	NE.	1	N.	10
	6	NW.	1	Clear	0		6	SE.	1	K.	8		6	NE.	1	N.	10
	9	W. NW.	1	Clear	0		9	S. SE.	1	K.	10		9	NE.	1	K.	10
	Noon	NW.	1	Clear	0		Noon	S.	1	C. K.	10		Noon	NE.	1	N.	10
	3	NW.	1	Clear	0		3	S. SE.	1	C. K.	10		3	NW.	1	K.	10
	6	SW.	1	Clear	0		6	SE.	1	C. S.	4		6	NW.	2	Fog	10
	9	NW.	1	Clear	0		0	NE.	1	K.	10		9	NW.	1	Fog	10
Jan. 19	0	N.	1	N.	10	Jan. 20	0	SW.	3	Clear	0	Jan. 21	0	E. SE.	1	K.	10
	3	NE.	1	N.	10		3	NW.	3	C. K.	8		3	NE.	1	K.	10
	6	NE.	1	K.	10		6	NW.	2	K.	10		6	NE.	1	C. K.	9
	9	S.	3	C. K.	9		9	W.	1	C. K.	7		9	NE.	1	C. K.	10
	Noon	S.	3	C. K.	9		Noon	W. NW.	3	C. S.	8		Noon	NE.	3	C. S.	2
	3	SW.	3	C. K.	10		3	W.	1	S.	1		3	E.	1	C. K.	8
	6	W.	6	C. K.	8		6	NW.	1	C. S.	2		6	E.	1	C. K.	10
	9	W.	7	N.	10		9	NE.	1	K.	10		9	NE.	1	K.	10
Jan. 22	0	NE.	1	K.	10	Jan. 23	0	N. NW.	1	C.	2	Jan. 24	0	S.	1	Clear	0
	3	N. NE.	1	K.	10		3	N.	1	Clear	0		3	S.	1	Clear	0
	6	E. SE.	1	K.	10		6	NW.	1	Clear	0		6	SE.	1	C. S.	6
	9	SE.	1	C. K.	10		9	E. SE.	1	C.	4		9	SE.	1	C.	4
	Noon	S.	1	C.	2		Noon	S.	1	C.	5		Noon	S.	1	C. K.	[illegible]
	3	SE.	1	S.	1		3	SE.	1	C.	4		3	S.	1	C.	4
	6	SE.	1	C. S.	3		6	SE.	1	C.	2		6	SW.	1	C. S.	4
	9	N.	1	C. K.	8		9	S.	1	Clear	0		9	SW.	1	C. S.	3
Jan. 25	0	SW.	1	C.	10	Jan. 26	0	NW.	1	K.	9	Jan. 27	0	W.	1	Clear	0
	3	S.	1	C. K.	8		3	S. E.	1	C. K.	10		3	NW.	1	Clear	0
	6	S. E.	1	C.	4		6	S. SE.	1	C. S.	2		6	N. W.	1	C.	2
	9	S. E.	1	C. K.	7		9	W.	1	Hazy			9	SE.	1	C.	7
	Noon	W.	2				Noon	NW.	6	Clear	0		Noon	SE.	1	Hazy	
	3	Calm	0				3	W.	4	Clear	0		3	S.	1	Clear	0
	6	E.	1	C.	3		6	NE.	1	C. S.	6		6	S.	1	Clear	0
	9	E.	1	C.	4		9	N. NW.	1	Clear	0		9	SE.	1	Clear	0
Jan. 28	0	NW.	1	Clear	0	Jan. 29	0	SW.	1	Clear	0	Jan. 30	0	NE.	1	C. K.	6
	3	N. NW.	1	Clear	0		3	W.	1	Clear	0		3	NE.	3	K.	10
	6	NW.		Clear	0		6	W.	1	Clear	0		6	NE.	2	Mist	10
	9	E.	1	Hazy			9	S. SE.	1	Hazy			9	NE.	1	Mist	10
	Noon	SE.	1	Hazy			Noon	NE.	1	Hazy			Noon	NE.	1	Mist	10
	3	S.	1	Hazy			3	NE.	1	Hazy			3	NE.	1	Mist	10
	6	S.	1	S.	1		6	E.	1	C. K.	4		6	NE.	1	Mist	10
	9	SW.	1	Clear	0		9	N.	1	C.	4		9	NE.	1	N.	10

REMARKS.

January 18. Commenced raining at 2h. 15m. a. m. Amount, 1.400 inch. Commenced snowing at 8h. 30m. p. m.
22. Wind very variable during the day. At 0h. 40m. a bright shooting star in the NE. Course S. by W. about 10°.
24. A lunar halo from 8h. p. m. till midnight.
26. Zodiacal light very bright from sunset till 7h. p. m.; apex reaching an altitude of about 40°.
27. A heavy white frost in the morning.
28. Zodiacal light appeared at 6h. 30m. p. m., and continued till 8h. 30m. p. m.; its apex reaching to within 5° of the Pleiades at 7h. 30m. At 8h. 15m. p. m. "Watson's Comet" was seen without the aid of a glass.
29. Shooting stars from NE. at 1h. a. m. Wet Bulb thermometer dry at 6h. p. m. Faint appearance of zodiacal light at 6h. p. m. through cirro-stratus clouds, lasting till 7h. 20m. p. m.
30. Commenced raining steadily at 8h. p. m.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Jan. 31	0	NE.	1	N.	10												
	3	NE.	1	K.	10												
	6	NE.	1	K.	10												
	9	E.	1	Fog	10												
	Noon	NE.	1	K.	10												
	3	SE.	1	K.	10												
	6	E.	1	K.	10												
	9	E.	1	K.	10												
Feb. 1	0	E. SE.	2	K.	10	Feb. 2	0	NW.	1	Fog		Feb. 3	0	N.	1	C.	3
	3	E. SE.	1	Mist	10		3	NE.	1	K.	10		3	NW.	1	C. K.	6
	6	NE.	1	N.	10		6	E.	1	K.	10		6	NW.	4	K.	10
	9	E.	1	N.	10		9	E.	1	Fog			9	NW.	8	K.	10
	Noon	S.	1	N.	10		Noon	NE.	1	K.	10		Noon	NW.	6	K.	10
	3	S.	1	K.	10		3	SE.	1	C. K.	9		3	NW.	6	C. K.	6
	6	S.	1	K.	10		6	NE.	1	C. S.	3		6	NW.	3	S.	1
	9	SW.	1	K.	10		9	N.	1	K.	10		9	NW.	2	Clear	0
Feb. 4	0	NW.	2	Clear	0	Feb. 5	0	SE.	1	C. K.	4	Feb. 6	0	SE.	1	Hazy	
	3	W.	1	Clear	0		3			K.	3		3	NE.	1	C. K.	10
	6	SW.	1	Clear	0		6			S.	1		6	NW.	1	K.	10
	9	S.	1	C. K.	9		9	SE.	1	S.	2		9	N. NW.	1	Fog	
	Noon	S.	3	C. K.	9		Noon	SE.	1	Clear	0		Noon	E. SE.	1	K.	10
	3	S.	3	C. K.	3		3	S.	1	C.	2		3	N.	1	K.	10
	6	SE.	1	C. S.	2		6	SE.	1	C. K.	3		6	N. NE.	1	K.	10
	9	S.	1	C. K.	8		9	SE.	1	Hazy			9	NE.	1	K.	10
Feb. 7	0	NW.	2	N.	10	Feb. 8	0	S.	1	S.	1	Feb. 9	0	NW.	2	C. S.	1
	3	N.	1	N.	10		3	S.	1	Clear	0		3	NW.	1	S.	1
	6	N. NW.	2	K.	10		6	SW.	1	Clear	0		6	NW.	1	S.	1
	9	NW.	1	C. K.	10		9	SW.	1	C. S.	6		9	NW.	1	C. S.	4
	Noon	NW.	2	K.	10		Noon	W.	2	C. K.	9		Noon	W.	1	C. K.	8
	3	W.	2	C.	3		3	NW.	4	C. K.	7		3	W.	1	C.	3
	6	S.	1	K.	10		6	NW.	2	Clear	0		6	N.	1	C. S.	4
	9	SE.	1	C. K.	9		9	NW.	2	Clear	0		9	W.	1	Clear	0
Feb. 10	0	N.	1	Clear	0	Feb. 11	0	SW.	1	Clear	0	Feb. 12	0	S.	1	Clear	0
	3	NE.	1	Clear	0		3	N.	1	Clear	0		3	S.	1	Clear	0
	6	NE.	1	Clear	0		6	N.	1	S.	1		6	S.	1	C.	1
	9	SW.	1	Clear	0		9	E.	1	S.	1		9	S.	1	C.	1
	Noon	NW.	4	C. K.	3		Noon	S.	2	Clear	0		Noon	E.	1	C. K.	10
	3						3	S.	1	S.	1		3	NW.	1	C. K.	10
	6	N. NW.	3	Clear	0		6	S.	1	C. S.	3		6	NW.	1	C.	2
	9	NW.	1	Clear	0		9	S.	1	Clear	0		9	NW.	1	Clear	0

REMARKS.

February 1. A drizzling rain from 1h. a. m. to 8h. a. m.
2. Lightning and thunder in the N. from 9h. to 9h. 30m. p. m.
3. A shower of rain at 4h. 20m. a. m. Wind NW. Several shooting stars during the evening of the 6th mag.; course westward. Zodiacal light from 6h. to 8h. 40m. p. m.; apex reaching an altitude of 45° in the direction of the Pleiades.
4. The apex of the zodiacal light was visible at 7 p. m. above a thick cloud, reaching to within 15° of the Pleiades.
6. Showers of rain at 7h. 30m., 8h., 9h. 30m., and 11h. 50m. p. m.; amount of rain, 0. 168 inch.
8. Zodiacal light from 6h. to 7h. 30m. p. m., apex reaching an altitude of 50°.
10. Water frozen in cup attached to Wet Bulb thermometer, at 9h. a. m.
11. Zodiacal light at 6h. p. m. Brilliancy diminished.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. Feb. 13	0	NW.	1	Clear	0	1864. Feb. 14	0	S. SW.	1	C. S.	2	1864. Feb. 15	0	S.	1	Clear	0
	3	NW.	1	Clear	0		3	SW.	1	C. K.	6		3	E. NE.	1	C. S.	3
	6	W. SW.	1	S.	1		6	S.	1	K.	10		6	E.	1	Hazy	
	9	S.	1	Clear	0		9	SE.	1	C. K.	2		9	S.	1	K.	10
	Noon	W.	1	Clear	0		Noon	NW.	5	C. K.	2		Noon	S.	1	K.	10
	3	W.	1	Clear	0		3	NW.	6	C. S.	1		3	S.	1	N.	10
	6	S.	1	Clear	0		6	NW.	4	S.	1		6	S.	1	N.	10
	9	S. SW.	1	Clear	0		9	NW.	3	Clear	0		9	S.	1	N.	10
Feb. 16	0	S.	1	K.	10	Feb. 17	0	W.	6	Clear	0	Feb. 18	0	NW.	2	Clear	0
	3	S.	1	K.	10		3	NW.	4	S.	1		3	W.	1	S.	1
	6	SW.	1	K.	10		6	NW.	3	S.	1		6	W.	1	C. S.	3
	9	S.	1	K.	10		9	NW.	5	C. K.	6		9	W. NW.	1	C.	7
	Noon	NW.	5	C. K.	2		Noon	NW.	6	C. K.	8		Noon	SW.	1	C. K.	7
	3	NW.	6	C. S.	1		3	NW.	6	C. K.	5		3	S. SW.	1	C. K.	9
	6	NW.	6	C.	1		6	W. NW.	4	C. K. S.	2		6	W. SW.	1	S.	1
	9	W.	6	C.	1		9	W. NW.	3	Clear	0		9	NW.	3	Clear	0
Feb. 19	0	NW.	2	C. K.	6	Feb. 20	0	S.	1	Clear	0	Feb. 21	0	N. E.	1	K.	10
	3	NW.	2	C. K.	2		3	SW.	1	Clear	0		3	S.	1	C.	10
	6	NW.	2	Clear	0		6	W.	1	Clear	0		6	NW.	1	C. S.	3
	9	NW.	1	Clear	0		9	S.	1	C.	7		9	S.	1	Hazy	
	Noon	W. SW.	2	Clear	0		Noon	S.	1	C.	2		Noon	S.	1	C.	10
	3	W.	1	Clear	0		3	S. SE.	1	C. K.	4		3	S.	1	C.	10
	6	SW.	1	Clear	0		6	SE.	1	C. K.	9		6	SE.	1	C. K.	10
	9	S.	1	Clear	1		9	E.	1	K.	10		9	E.	1	K.	10
Feb. 22	0	NE.	1	K.	10	Feb. 23	0	S.	1	C. K.	9	Feb. 24	0	S.	1	C. K.	10
	3	N.	1	C. K.	8		3	SW.	1	C. S.	2		3	S.	1	C. K.	8
	6	W.	1	C.	6		6	W. NW.	1	Clear	0		6	SW.	2	C.	2
	9	S.	1	C. K.	10		9	S. SE.	1	S.	1		9	W.	2	C. S.	2
	Noon	SE.	1	K.	10		Noon						Noon	W. NW.	4	C. K.	4
	3	SE.	1	C. K.	10		3	SW.	1	C. K.	6		3	W. NW.	4	C. K.	9
	6	S.	1	C. K.	10		6	S.	1	C. K.	8		6	W.	2	C. K.	4
	9	SW.	1	Hazy			9	S.	1	C. K.	10		9	SE.	1	Clear	0
Feb. 25	0	SE.	1	Clear	0	Feb. 26	0	W. NW.	1	C.	2	Feb. 27	0	NW.	2	Clear	0
	3	SE.	1	C.	3		3	W. NW.	1	C.	1		3	NW.	2	Clear	0
	6	SE.	1	K.	10		6	NW.	2	Clear	0		6	NW.	1	Clear	0
	9	SE.	1	K.	10		9	NW.	5	C. K.	4		9	NW.	1	S.	1
	Noon	SE.	1	C. K.	10		Noon	NW.	5	C. K.	6		Noon	W.	1	Hazy	2
	3	SE.	1	C. K.	10		3	NW.	5	K.	4		3	SE.	1	C. K.	6
	6	S. SE.	1	C. K.	8		6	NW.	4	S.	1		6	S.	1	C. K. S.	5
	9	W.	1	K.	10		9	NW.	3	Clear	0		9	S.	1	S.	1

REMARKS.

February 15. Commenced snowing at 2h. 30m. p. m.
17. Snowing lightly at intervals during the day.
20. Lunar halo from 10h. to 11h. p. m.
21. Lunar halo at midnight.
25. A shower of rain at 8h. 40m. p. m. Amount, 0. 015 inch.
26. Zodiacal light brilliant.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. Feb. 28	0	S.	1	C. K.	8	1864. Feb. 29	0	S.	3	K.	10	1864.					
	3	SE.	1	C. S.	4		3	N. NW.	1	K.	10						
	6	SE.	1	C.	6		6	NW.	1	K.	10						
	9	S.	1	Hazy			9	NW.	2	K.	10						
	Noon	S.	1	Hazy			Noon	NW.	2	K.	10						
	3	S.	1	Hazy			3	N.	1	C. K.	10						
	6	S.	1	C. K.	10		6	N.	1	K.	10						
	9	S.	1	C. K.	10		9	S. SE.	1	K.	10						
Mar. 1	0	N. NW.	1	N.	10	Mar. 2	0	NW.	3	K.	9	Mar. 3	0	W.	1	Clear	0
	3	N.	1	N.	10		3	NW.	2	Clear	0		3	NW.	1	Clear	0
	6	N.	1	N.	10		6	W.	1	Clear	0		6	N.	1	S.	1
	9	E. NE.	1	N.	10		9	W.	1	Clear	0		9	N. NW.	1	Clear	0
	Noon	N. NE.	1	N.	10		Noon	W.	1	C.	1		Noon	N. NW.	1	Clear	0
	3	N.	1	N.	10		3	W.	1	C.	1		3	NW.	1	Clear	0
	6	NE.	1	N.	10		6	W.	1	Clear	0		6	SE.	1	Clear	0
	9	NE.	1	N.	10		9	NW.	1	Clear	0		9	SE.	1	Clear	0
Mar. 4	0	SE.	1	Clear	0	Mar. 5	0	S.	1	K.	10	Mar. 6	0	N. NW.	1	Clear	0
	3	S.	1	Clear	0		3	S.	1	K.	10		3	NW.	1	C. K.	4
	6	S.	1	C. S.	3		6	S.	1	K.	10		6	N. NW.	2	K.	10
	9	S.	1	C.	2		9	S.	1	N.	10		9	N.	1	K.	10
	Noon	S.	1	C.	4		Noon	S.	1	N.	10		Noon	NW.	1	K.	10
	3	S.	1	C. K.	8		3	NW.	3	N.	10		3	N. NW.	2	K.	10
	6	S.	1	C. K.	10		6	N. NW.	1	C. K.	6		6	NW.	3	C. K. S.	8
	9	W.	1	C. K.	7		9	W.	1	Clear	0		9	NW.	3	K.	10
Mar. 7	0	NW.	2	K.	10	Mar. 8	0	N. NW.	1	S.	1	Mar. 9	0	NW.	1	Clear	0
	3	NW.	4	C. S.	4		3	N.	1	K.	2		3	NW.	1	Hazy	
	6	NW.	4	S.	1		6	N.	1	K.	10		6	NW.	1	Hazy	
	9	NW.	3	Clear	0		9	N.	1	N.	10		9	NW.	1	C.	6
	Noon	NW.	4	C.	3		Noon	N.	1	N.	10		Noon	S.	1	Hazy	
	3	SW.	3	Clear	0		3	NE.	1	K.	10		3	S. SE.	1	Hazy	
	6	N. NW.	1	S.	1		6	NW.	1	C. K.	4		6	SE.	1	S.	1
	9	NW.	1	S.	1		9	W. SW.	1	C. K.	2		9	SW.	1	Clear	0
Mar. 10	0	W.	1	C.	1	Mar. 11	0	NW.	1	N.	10	Mar. 12	0	W.	1	C.	3
	3	N.	1	C. K.	6		3	N.	1	K.	10		3	W.	1	Clear	0
	6	NE.	1	K.	10		6	NE.	1	K.	10		6	SW.	1	Clear	0
	9	NE.	1	C. K.	10		9	E. SE.	1	Fog	10		9	W.	1	Clear	0
	Noon	NE.	1	C. K.	10		Noon	NE.	1	Fog	10		Noon	Calm	0	Clear	0
	3	NE.	2	C. K.	10		3	E.	1	Fog	10		3	S. SE.	2	Clear	0
	6	E. NE.	3	C. K.	10		6	N.	1	N.	10		6	Calm	0	Clear	0
	9	NE.	1	N.	10		9	W.	1	K.	10		9	SE.	1	Clear	0

REMARKS.

February 29. Snow and rain at 10h. 40m. p. m.
March 1. Ceased snowing at 11h. p. m. Amount of rain, 1. 070 inch.
5. Commenced raining at 8h. 50m. a. m. Amount of rain, 0. 060 inch. Lightning in the S. SE. at 7h. and 8h. p. m.
8. A light shower at 4h. a. m. Ceased raining at 2h. p. m.
9. A heavy white frost this morning.
11. Distant thunder at 3h. 30m. p. m. Lightning at 7h. p. m.; and at 8h. 15m. p. m. a heavy fall of rain, accompanied by sharp lightning and thunder.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. Mar. 13	0	SE.	1	C.	1	1864. Mar. 14	0	W.	1	K.	10	1864. Mar. 15	0	N.	1	K.	10
	3	E.	1	C. S.	4		3	NW.	3	K.	10		3	N.	1	N.	10
	6	E.	1	S.	1		6	NW.	4	C. S.	2		6	SW.	1	K.	10
	9	N. NW.	1	C. S.	1		9	NW.	3	K.	5		9	S. SW.	1	C. K.	8
	Noon	SE.	1	C. K.	2		Noon	NW.	3	K.	5		Noon	SW.	1	C. K.	9
	3	W. NW.	5	K. S.	5		3	NW.	2	C. K.	2		3	NW.	3	C. K.	10
	6	W. NW.	3	Clear	0		6	N. NW.	2	C. S.	7		6	NW.	3	C. S.	4
	9	W.	2	Clear	0		9	N.	1	C. K.	10		9	NW.	4	C. S.	4
Mar. 16	0	NW.	2	S.	1	Mar. 17	0	W. NW.	2	K.	10	Mar. 18	0	S.	1	K.	10
	3	NW.	2	S.	1		3	NW.	1	K.	10		3	S.	1	K.	10
	6	NW.	2	C. S.	3		6	NW.	1	K.	10		6	S.	1	S.	1
	9	NW.	2	S.	1		9	W. NW.	2	C. K.	2		9	S.	1	S.	1
	Noon	NW.	3	C. S.	6		Noon	SW.	1	C. K.	3		Noon	S.	5	C.	3
	3	NW.	3	C. K.	10		3	SE.	1	C. K.	4		3	S.	6	C.	2
	6	NW.	2	C. K. S.	9		6	S.	1	S.	1		6	S. SW.	3	C. K.	2
	9	NW.	3	K.	10		9	S. SE.	1	C.	6		9	W. NW.	1	K.	10
Mar. 19	0	NW.	1	K.	10	Mar. 20	0	N.	2	C. K.	9	Mar. 21	0	N.	1	C.	7
	3	N.	1	K.	10		3	N. NE.	1	C. K.	4		3	N.	1	C.	3
	6	NE.	1	K.	10		6	NE.	1	Clear	0		6	N.	1	C. S.	4
	9	NW.	1	C. K.	3		9	S.	1	Clear	0		9	N. NE.	2	C.	10
	Noon	N.	1	C. K. S.	2		Noon	S.	1	C.	2		Noon	N.	1	C. K.	7
	3	N. NE.	1	C. K.	7		3	SW.	1	C.	2		3	NW.	1	C. K.	8
	6	NE.	1	K.	10		6	NW.	3	C. S.	2		6	N.	1	Clear	0
	9	N.	1	K.	10		9	N.	3	C.	3		9	NE.	1	Clear	0
Mar. 22	0	NW.	1	Clear	0	Mar. 23	0	N.	2	N.	10	Mar. 24	0	NW.	1	C.	1
	3	N.	1	Clear	0		3	N. NW.	1	N.	10		3	NW.	1	Clear	0
	6	N.	2	C. S.	3		6	N. NW.	1	N.	10		6	NW.	3	Clear	0
	9	NE.	2	K.	10		9	NW.	1	C. K.	6		9	NW.	4	Clear	0
	Noon	NE.	2	K.	10		Noon	NW.	3	C. K.	6		Noon	NW.	2	Clear	0
	3	NE.	3	K.	10		3	NW.	1	C. K.	2		3	NW.	1	Clear	0
	6	N. NE.	3	N.	10		6	N. NW.	1	C.	2		6	SW.	1	Clear	0
	9	NE.	2	N.	10		9	NW.	1	C.	2		9	SE.	2	Clear	0
Mar. 25	0	S.	1	C.	10	Mar. 26	0	NE.	4	N.	10	Mar. 27	0	N. NW.	3	N.	10
	3	NW.	1	K.	10		3	N. NE.	3	N.	10		3	NW.	4	C. S.	5
	6	S.	1	K.	10		6	NW.	3	N.	10		6	NW.	1	Clear	0
	9	S.	1	C. K.	10		9	NW.	3	K.	10		9	N.	2	C. S.	2
	Noon	S.	1	K.	10		Noon	NW.	5	K.	10		Noon	N. NW.	1	C. K.	2
	3	NE.	1	K.	10		3	NW.	6	N.	10		3	NW.	2	C. K.	2
	6	NE.	1	N.	10		6	N. NW.	4	C. K.	10		6	N.	1	C. S.	2
	9	NE.	4	N.	10		9	NW.	4	N.	10		9	S.	1	Clear	0

REMARKS.

March 13. Strong wind and slight rain from 1h. 30m. to 4h. p. m.
15. Commenced snowing at 3h. a. m. A moderate shower of hail at 1h. 35m. p. m. from NW.
21. A large lunar halo at midnight.
22. Snowing lightly at 8 a. m. Commenced snowing at 5h. 30m. p. m. Depth of snow, 9 inches.
24. Lunar halo at midnight.
25. Snowing lightly at 0h. 25m. p. m. Raining at 1h. 30m. p. m. Amount of rain, 0.720 inch. Lunar halo at midnight.
26. Raining at midnight and continued till 6h. a. m.; light showers during the day. Amount, 0.110 inch.
27. Raining at midnight and continued till 2h. 30m. p. m.; light showers at intervals.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. Mar. 28	0	N. NW.	1	C.	2	1864. Mar. 29	0	SE.	2	K.	10	1864. Mar. 30	0	NE.	5	N.	10
	3	NW.	1	Clear	0		3	NE.	1	K.	10		3	NE.	4	N.	10
	6	NW.	1	C. S.	3		6	NE.	1	K.	10		6	N. NW.	3	N.	10
	9	S.	1	C. K.	6		9	NE.	3	C. K.	9		9	NW.	3	N.	10
	Noon	E.	1	C.	2		Noon	NE.	4	C. K.	10		Noon	N. NW.	3	N.	10
	3	E. SE.	1	C. K.	6		3	E.	4	C. K.	10		3	NW.	2	N.	10
	6	E. SE.	1	C. K.	10		6	E.	6	N.	10		6	NW.	2	C. K.	10
	9	E. SE.	1	C. K.	10		9	E.	5	N.	10		9	NW.	2	K.	10
Mar. 31	0	NW.	3	K.	10												
	3	NW.	3	K.	10												
	6	NW.	2	K. S.	10												
	9	NW.	2	C. K. S.	9												
	Noon	NW.	3	C. K.	9												
	3	NW.	3	C. K.	9												
	6	NW.	2	K.	10												
	9	NW.	2	K.	10												
April 1	0	NW.	1	C. K.	4	April 2	0	N. NE.	3	N.	10	April 3	0	NW.	3	N.	10
	3	W.	1	K.	10		3	NE.	1	N.	10		3	NW.	3	N.	10
	6	W. NW.	1	C. K. S.	9		6	NE.	1	N.	10		6	N. NW.	2	C. K.	10
	9	E.	1	C. K.	8		9	N.	2	N.	10		9	NW.	3	C. K.	10
	Noon	SE.	1	K.	10		Noon	N. NW.	3	N.	10		Noon	NW.	3	C. K.	10
	3	SE.	1	N.	10		3	N. NW.	3	N.	10		3	NW.	2	C. K.	8
	6	NE.	1	N.	10		6	NW.	4	N.	10		6	N. NE.	1	C. K.	10
	9	NE.	2	N.	10		9	NW.	4	N.	10		9	N.	1	K.	10
April 4	0	E.	1	K.	10	April 5	0	NE.	2	N.	10	April 6	0	NW.	3	N.	10
	3	NE.	1	C. S.	6		3	NE.	2	N.	10		3	N. NW.	3	N.	10
	6	N. NE.	1	C.	8		6	NE.	3	N.	10		6	N. NW.	2	Mist	10
	9	E.	2	C. K.	10		9	NE.	3	N.	10		9	N.	1	C. K.	10
	Noon	E. SE.	1	C. K.	10		Noon	N. NE.	3	N.	10		Noon	N.	2	C. K.	9
	3	NE.	1	N.	10		3	N.	3	N.	10		3	N.	2	C. K.	7
	6	E.	1	N.	10		6	N.	3	N.	10		6	N.	1	C. S.	4
	9	NE.	2	N.	10		9	N. NW.	3	N.	10		9	NW.	2	Clear	0
April 7	0	W.	1	S.	1	April 8	0	NW.	1	Clear	0	April 9	0	SE.	1	K.	10
	3	NW.	2	Clear	0		3	W.	1	C.	3		3	SE.	1	K.	10
	6	NW.	1	C. K.	4		6	NE.	1	C. K. S.	8		6	E.	1	K.	10
	9	N.	1	C. S.	4		9	W.	1	C. K.	8		9	SE.	1	N.	10
	Noon	N.	1	C.	6		Noon	S.	1	C.	10		Noon	E.	1	N.	10
	3	NE.	1	C. K.	8		3	S.	1	C. K.	7		3	E.	1	N.	10
	6	SW.	1	C. S.	2		6	S.	1	C. K.	9		6	NE.	2	N.	10
	9	NW.	1	Clear	0		9	S.	1	C. K.	9		9	NE.	3	N.	10

REMARKS.

March 29. Commenced raining at 1h. p. m. Wind east and cold. A few flakes of snow at 2h. p. m. Amount of rain, 0. 600 inch.
30. Heavy rain during the night; ceased at 4h. p. m. Commenced snowing at 5h. 45m. a. m. Amount of rain, 0. 600 inch.
April 1. Raining at 2h. p. m. Amount, 0. 150 inch. Raining at midnight. Amount, 1. 040 inch.
3. Raining at midnight. Amount, 0. 043 inch.
4. Commenced raining heavily at 2h. p. m. Wind E. SE. Amount, 0. 345 inch.
5. Rain during the entire day. Amount, 1. 780 inch.
6. Raining at midnight; continued till 6h. a. m. Amount, 0. 346 inch.
9. A moderate shower of rain at 3h. 30m. a. m.; also at 5h. 35m. a. m. Commenced raining heavily at 8h. 20m. a. m. Amount of rain during the day, 1. 420 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. April 10	0	NE.	2	N.	10	1864. April 11	0	NW.	1	K.	9	1864. April 12	0	NW.	1	Clear	6
	3	NE.	2	N.	10		3	NW.	1	K.	5		3	NW.	1	Clear	[illegible]
	6	W.	1	K.	10		6	N.	1	C. K.	9		6	NW.	1	C. S.	[illegible]
	9	NW.	1	C. K.	10		9	SW.	1	C. K.	9		9	SE.	1	C. K.	[illegible]
	Noon	W.	1	C. K.	8		Noon	NW.	1	C. K.	9		Noon	S.	2	C. K.	[illegible]
	3	W.	2	C. K.	8		3	NW.	2	C. K.	9		3	S.	3	C. K.	[illegible]
	6	NW.	2	C. K. S.	8		6	NW.	1	C. K.	9		6	S.	2	C. K.	10
	9	N.	1	C. S.	6		9	NW.	2	C. K.	3		9	S.	2	K.	10
April 13	0	S.	1	K.	10	April 14	0	SE.	1	C. K.	9	April 15	0	W.	1	C. K.	[illegible]
	3	S.	1	K.	10		3	SW.	1	K.	10		3	NW.	1	C.	[illegible]
	6	SW.	1	C. K. S.	7		6	W.	1	C. K. S.	4		6	NW.	1	C. K. S.	[illegible]
	9	NW.	3	C.	7		9	W.	1	C.	2		9	E. NE.	1	C. K.	[illegible]
	Noon	W. NW.	3	K. S.	9		Noon	W.	1	K.	9		Noon	E.	1	C. K.	9
	3	NW.	4	K. S.	9		3	W.	1	N.	10		3	E.	1	K.	10
	6	NE.	2	K. S.	7		6	W.	1	K.	10		6	NW.	1	C. K.	10
	9	SE.	1	C. K.	6		9	NW.	1	K.	10		9	W. SW.	1	N.	10
April 16	0	NW.	1	K.	10	April 17	0	NW.	1	C. K.	4	April 18	0	SW.	1	Clear	0
	3	W.	1	N.	10		3	NW.	2	K.	10		3	W.	1	Clear	0
	6	W.	1	N.	10		6	NW.	1	N.	10		6	W.	1	Clear	0
	9	W.	1	N.	10		9	NW.	2	K.	10		9	W. NW.	1	C. K.	1
	Noon	S.	1	N.	10		Noon	NW.	1	C. K.	8		Noon	NW.	1	C. K.	[illegible]
	3	N.	1	N.	10		3	NW.	1	C. K.	6		3	SW.	1	C. K.	6
	6	N. NW.	1	N.	10		6	NW.	1	C. K. S.	2		6	W.	1	C. S.	3
	9	N.	1	K.	10		9	NW.	1	Clear	0		9	W.	1	S.	2
April 19	0	NW.	1	C. K.	2	April 20	0	N. NW.	2	C.	1	April 21	0	NW.	1	C. K.	10
	3	NW.	1	C. K.	8		3	NW.	1	C. K.	6		3	NW.	1	C. K.	9
	6	NE.	2	C. S.	2		6	NW.	1	C. K.	9		6	NW.	2	C. K.	[illegible]
	9	N.	2	Clear	0		9	N.	1	C. K.	8		9	NW.	1	C. K.	[illegible]
	Noon	N.	1	C.	3		Noon	NW.	2	C. K.	10		Noon	NW.	2	N.	9
	3	N.	1	C. K.	6		3	N.	1	C. K.	9		3	W. NW.	1	C. K.	5
	6	N.	1	C. K.	7		6	NW.	1	K.	10		6	W. NW.	1	C. K.	2
	9	N.	2	C. K.	8		9	W.	1	K.	10		9	SE.	1	Clear	0
April 22	0	S.	1	Clear	0	April 23	0	E. NE.	1	C.	1	April 24	0	S.	4	C.	3
	3	SW.	1	Clear	0		3	SE.	1	C. K.	9		3	S.	2	C.	2
	6	S.	1	Clear	0		6	S.	1	C. K. S.	8		6	S. SE.	1	C.	5
	9	SE.	1	C.	3		9	S.	1	S.	2		9	S.	2	C. K.	10
	Noon	S.	1	C.	10		Noon	S.	4	C.	4		Noon	S.	2	C. K.	10
	3	S.	1	C. K.	8		3	S.	5	C.	3		3	S.	1	C. K.	10
	6	SE.	2	K.	10		6	S.	3	C.	8		6	SE.	1	K.	10
	9	SE.	1	K.	10		9	S. SW.	4	C.	1		9	SE.	1	K.	10

REMARKS.

April 10. Raining heavily at midnight, and continued till 3h. a. m. Amount of rain during the day, 0.900 inch.
15. Faint shooting stars from the east at 3h. 10m. a. m. Commenced raining at 7h. 20m. p. m. Amount, 0.020 inch.
16. Raining at 2h. a. m., and continued till 7h. 30m. p. m. Amount, 0.470 inch.
17. Raining lightly at 6h. a. m.
18. A white frost.
22. A light shower of rain at 8h. p. m.
23. A lunar halo at midnight.
24. A light shower of rain at 7h. 35m., and also rain at 9h. 20m. p. m., continuing till midnight. Amount, 0.210 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force					Direction.	Force.		
1864. April 25	0	E.	2	N.	10	1864. April 26	0	W. NW.	4	K.	10	1864. April 27	0	NW.	1	Clear	0
	3	E. SE.	2	N.	10		3	NW.	2	K.	10		3	SW.	1	S.	1
	6	SE.	3	K.	10		6	W.	1	C. K.	9		6	W.	1	C. K.	9
	9	SW.	1	C. K.	10		9	NW.	2	C. K.	10		9	W. NW.	3	C.	3
	Noon	W.	1	C.	2		Noon	NW.	2	C. K.	7		Noon	NW.	3	C. K.	4
	3	SE.	1	C. K.	3		3	NW.	3	C. K.	8		3	W.	3	C. K.	4
	6	SW.	1	C. S.	2		6	NW.	2	C. S.	3		6	W. NW.	3	C. K.	9
	9	S.	1	K.	7		9	NW.	1	Clear	0		9	N. NW.	4	K.	10
April 28	0	NW.	4	C. K.	3	April 29	0	NW.	2	Clear	0	April 30	0	S.	1	Clear	0
	3	NW.	3	C.	4		3	NW.	1	C. S.	3		3	SW.	1	Clear	0
	6	NW.	3	S.	1		6	N. NW.	2	C. S.	2		6	NE.	1	C.	4
	9	NW.	3	C.	7		9	N. NW.	1	Clear	0		9	S. SE.	1	C.	10
	Noon	NW.	4	C. K.	6		Noon	S.	1	Clear	0		Noon	S. SE.	1	C. K.	9
	3	N. NW.	2	C. K.	5		3	S. SE.	1	C.	1		3	SE.	1	N.	10
	6	NW.	2	Clear	0		6	S.	1	C.	1		6	S.	1	K.	10
	9	NW.	1	Clear	0		9	SW.	1	Clear	0		9	SE.	1	N.	10
May 1	0	S.	1	K.	9	May 2	0	W.	1	S.	1	May 3	0	SW.	2	K.	9
	3	SW.	1	K.	10		3	NW.	1	C. S.	3		3	W.	2	C. K.	3
	6	W. NW.	1	K.	10		6	N. NW.	1	C. K.	6		6	SW.	1	Clear	0
	9	NW.	1	K. S.	10		9	SE.	1	C. K.	9		9	W.	3	C.	4
	Noon	NW.	2	C. K.	6		Noon	S. SE.	3	C. K.	9		Noon	W.	3	C. K.	6
	3	NW.	1	C.	2		3	S. SE.	2	C. K.	5		3	W.	3	C. K.	7
	6	N. NW.	1	Clear	0		6	E.	1	K.	10		6	SW.	2	C. K.	9
	9	NW.	1	Clear	0		9	NW.	1	N.	10		9	W.	1	K.	2
May 4	0	W.	1	C. K.	5	May 5	0	NW.	1	Clear	0	May 6	0	SE.	1	Clear	0
	3	W. NW.	1	Clear	0		3	NW.	1	C.	1		3	SW.	1	Clear	0
	6	W. NW.	2	C. K.	4		6	NW.	1	Hazy			6	W.	1	C.	2
	9	NW.	3	C. K.	2		9	SE.	1	Hazy			9	SE.	1	C.	
	Noon	NW.	3	C. K.	2		Noon	S.	1	Hazy			Noon	SE.	1	C.	7
	3	NW.	2	C. K.	2		3	SE.	1	C.	4		3	SE.	1	C.	
	6	NW.	1	Clear	0		6	S.	1	C.			6	SE.	1	Hazy	
	9	N.	1	Clear	0		9	S. SE.	1	Clear	0		9	SW.	1	C.	2
May 7	0	SE.	1	C.	1	May 8	0	W.	1	Clear	0	May 9	0	SW.	1	Hazy	
	3	W.	1	C.			3	W.	1	Clear	0		3	W.	1	Hazy	
	6	W. NW.	1	C. K.	9		6						6	NW.	1	C. K.	8
	9	W.	1	C. K.	6		9	NW.	1	C. K.	8		9	S.	1	C.	4
	Noon	W.	1	C.	1		Noon	NW.	1	C. K.	10		Noon	S.	1	C. K.	5
	3	S.	1	C.	3		3	SW.	1	C. K.			3	S.	2	C.	3
	6	S.	1	C.			6	S.	1	Hazy			6	S.	2	N.	10
	9	S.	1	Hazy			9	SW.	1	C. K.			9	SW.	1	C.	

REMARKS.

April 25. Lightning in the north from 9h. to 11h. p. m. Shower of rain at 8h. a. m. A light shower at 11h. p. m. Amount of rain during the day, 0. 240 inch.
27. Raining at 0h. 15m. a. m.
30. Raining at 2h. p. m. Amount, 0. 056.
May 2. Commenced raining at 6h. 20m p. m., accompanied with lightning and thunder, and continued till 9h. 15m. p. m.
9. Lightning and thunder from 7h. 50m. p. m. till midnight. Light shower of rain at 9h. 25m. p. m.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. May 10	0	W.	1	Hazy		1864. May 11	0	N.	1	K.	10	1864. May 12	0	NW.	1	C. K.	9
	3	NW.	1	Hazy			3	W.	1	Hazy			3	NW.	1	K.	10
	6	S.	1	C. K.	6		6	N. NE.	1	C. K.	10		6	NW.	1	Mist	10
	9	SE.	1	C.			9	E.	3	C. K.	6		9	N.	2	K.	10
	Noon	SE.	1	C.	10		Noon	E.	3	C. K.	8		Noon	NE.	2	N.	10
	3	S.	3	C. K.	6		3	S.	2	C. K.	9		3	NE.	1	C. K.	10
	6	S.	2	C. K.	6		6	NW.	3	C. K.	9		6	SW.	1	N.	10
	9	S.	1	K.	10		9	NW.	1	K.	10		9	S.	1	C. K.	6
May 13	0	S.	1	N.	10	May 14	0	N. NE.	3	C. K.	10	May 15	0	SE.	2	K.	10
	3	SE.	1	N.	10		3	E.	2	N.	10		3	S. SE.	2	C. K.	3
	6	E.	3	C. K.	10		6	E.	1	K.	10		6	NE.	2	N.	10
	9	SE.	1	N.	10		9	E. SE.	2	C. K.	8		9	E.	2	C. K.	6
	Noon	E. SE.	2	K.	10		Noon	E.	3	C. K.	8		Noon	SE.	2	C. K.	5
	3	E.	2	K.	10		3	SE.	3	C. K.	7		3	E.	1	N.	10
	6	E. SE.	3	K.	10		6	E. SE.	4	C. K.	5		6	S.	2	N.	10
	9	SE.	3	K.	10		9	SE.	3	C. K.	9		9	SW.	1	C. K.	2
May 16	0	NE.	1	C. K.	10	May 17	0	NE.	1	C.	3	May 18	0	NW.	2	C.	10
	3	E.	1	K.	10		3	NE.	1	K.	10		3	NW.	1	C. K.	10
	6	NE.	1	K.	10		6	NE.	1	K.	10		6	NW.	1	C. K.	10
	9	NE.	1	C. K.	7		9	E.	1	K.	10		9	S.	1	Fog	
	Noon	SW.	1	N.	9		Noon	NE.	1	K.	10		Noon	S. SW.	1	C. K.	3
	3	E. SE.	1	C. K.	5		3	E.	1	K.	6		3	NW.	2	N.	10
	6	E.	1	C. K.	6		6	E. SE.	2	C. K.	10		6	N.	1	C. K.	10
	9	N.	1	Clear	0		9	SE.	1	C.	5		9	NW.	1	K.	10
May 19	0	N. NW.	2	C. K.	10	May 20	0	SW.	1	Clear	0	May 21	0	N.	1	Hazy	
	3	NW.	1	K.	10		3	NW.	1	Fog			3	S.	1	Hazy	
	6	NW.	1	C. K.	10		6	NW.	1	Fog			6	S.	1	Hazy	
	9	N.	1	Mist	10		9	SE.	1	Fog			9	S. SE.	1	Hazy	
	Noon	SW.	1	K.	7		Noon	S.	1	C. K.	6		Noon	W. SW.	1	Hazy	
	3	E.	1	C. K.	8		3	SE.	2	C. K.	4		3	SW.	1	C. K.	4
	6	N.	1	C. K.	6		6	NW.	1	C. K.	7		6	SW.	2	Hazy	
	9	NE.	1	C. K.	2		9	SW.	1	Hazy			9	SW.	2	Hazy	
May 22	0	W. SW.	1	C.	10	May 23	0	NE.	1	Clear	0	May 24	0	S. SE.	1	C. K.	10
	3	SW.	1	C. K.	10		3	NE.	1	Clear	0		3	S.	1	C. K.	9
	6	SW.	1	C. K.	8		6	E.	1	C. K.	10		6	S.	1	K.	10
	9	W.	2	C. K.	10		9	S.	1	C. K.	8		9	SW.	2	C. K.	10
	Noon	NW.	2	C. K.	10		Noon	S.	1	C. K.	4		Noon	SW.	2	C. K.	8
	3	NW.	2	C. K.	10		3	SE.	2	C. K.	5		3	SE.	2	C. K.	2
	6	W. NW.	1	C. K.	9		6	S. SE.	2	Hazy			6	S. SE.	2	C.	1
	9	NE.	1	C.	3		9	SE.	2	Hazy			9	SW.	1	N.	10

REMARKS.

May 11. Heavy thunder at 2h. 20m. p. m. Rain at 3h. 20m. p. m. Amount, 0.240 inch.
12. Rain during the afternoon. Shower of hail at 5h. p. m. Amount of rain, 1.250 inch.
13. Rain, with lightning and thunder, at 1h. a. m. Amount, 0.500 inch.
14. Light shower of rain at midnight; again at 1h. 25m. p. m. Amount, 0.090 inch.
15. Showers at intervals during the day. Amount, 0.170 inch.
16. A heavy shower of rain at 2h. p. m. Amount, 0.220 inch.
18. Rain at 2h. 30m. p. m. Amount, 0.200 inch.
19. Showers of rain at 3h. 25m. and 5h. 50m. p. m. Amount, 0.060 inch.
24. Shower of rain at 0h. 40m. a. m., and also at 8h. p. m. Amount of rain, 0.150 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. May 25	0	SE.	1	C. K.	8	1864. May 26	0	SW.	1	C.	3	1864. May 27	0	W.	1	N.	10
	3	SW.	1	Clear	0		3	NE.	1	K.	10		3	W.	1	K.	10
	6	SE.	1	C. K.	2		6	N.	1	N.	10		6	SW.	1	N.	10
	9	S. SE.	1	C.	3		9	SE.	1	N.	10		9	W.	3	C. K.	9
	Noon	S.	1	C.	1		Noon	W.	1	N.	10		Noon	NW.	3	C. K.	6
	3	S.	2	C.	2		3	W.	2	N.	10		3	W. NW.	3	C.	4
	6	SE.	3	C. K.	10		6	NW.	1	K.	10		6	W. NW.	3	C. K.	7
	9	SW.	2	C. K.	10		9	W.	1	K.	10		9	NW.	1	C. K.	3
May 28	0	NW.	3	C. K.	8	May 29	0	N. NE.	2	C. K.	10	May 30	0	SW.	1	C. K.	6
	3	NW.	2	C. S.	3		3	N.	2	C.	2		3	SW.	1	C. K.	8
	6	N. NW.	2	C.	2		6	NW.	2	Clear	0		6	S.	1	C.	3
	9	N.	2	C. K.	7		9	N.	2	Clear	0		9	S.	1	C. K.	10
	Noon	N.	2	C. K.	3		Noon	N. NW.	1	Clear	0		Noon	SW.	3	C.	10
	3	NW.	3	C. K.	10		3	SW.	2	Clear	0		3	S. SW.	3	Hazy	
	6	N.	1	K.	10		6	SW.	1	C.			6	S. SW.	1	Clear	0
	9	N.	1	K.	10		9	SW.	1	C. K.	10		9	W.	1	Clear	0
May 31	0	S. SW.	1	Clear	0												
	3	SW.	1	S.	1												
	6	SW.	1	Hazy													
	9	E.	1	Hazy													
	Noon	W.	1	Hazy													
	3	S.	2	Hazy													
	6	SW.	1	Hazy													
	9	SW.	2	S.	1												
June 1	0	W.	2	S.	1	June 2	0	S.	2	C.	2	June 3	0	N. NW.	2	C. K.	10
	3	NW.	1	Clear	0		3	W.	1	Clear	0		3	N.	1	C. K.	10
	6	S.	1	Clear	0		6	NW.	2	C. K.	8		6	N.	1	C.	3
	9	S. SE.	1	Hazy			9	N.	1	C. K.	7		9	N. NE.	2	C.	1
	Noon	W.	2	C. K.	3		Noon	N.	2	N.	10		Noon	E.	1	C. K.	6
	3	SW.	2	C. K.	2		3	N.	1	N.	10		3	E.	2	C. K.	5
	6	SW.	1	C. K.	4		6	N. NE.	1	C. K.	10		6	NE.	1	C.	3
	9	S.	1	C. K.	6		9	N.	1	C. K.	10		9	E.	1	Clear	0
June 4	0	N.	1	Clear	0	June 5	0	E.	2	K.	10	June 6	0	SE.	1	Clear	0
	3	NW.	1	C.	1		3	NE.	1	N.	10		3	W.	1	S.	1
	6	N.	1	C. K.	10		6	E. NE.	1	K.	10		6	SW.	1	C. S.	2
	9	E.	1	C. K.	8		9	NE.	1	C. K.	10		9	SW.	1	C.	2
	Noon	SE.	3	C. S.	6		Noon	S.	1	C. K.	9		Noon	SE.	3	C. S.	3
	3	SE.	1	C. S.	6		3	E. SE.	1	C. K.	10		3	S.	2	C.	2
	6	E.	2	C. K.	10		6	NE.	1	C. K.	10		6	NW.	3	N.	10
	9	E.	2	C. K.	3		9	SW.	1	K.	10		9	W.	1	C. K.	7

REMARKS.

May 25. Thunder at 3h. 50m. p. m. Light shower of rain at 8h. p. m., and intense lightning till 11h. p. m.
26. Rain at 5h. 20m. a. m. Amount, 0.430 inch.
27. Moderate shower of rain at 6h. 45m. p. m. Amount, 0.080 inch.
28. Rain at 4h. 30m. p. m.
June 1. Lightning at 10h. and 11h. p. m.
2. Light showers of rain at 7h. 40m. a. m., 11h. 10m. a. m., and at noon. Amount, 0.015 inch.
5. Light shower of rain at 3h. a. m.
6. Thunder at 3h. 30m. p. m. Heavy rain and high wind at 5h. 20m. p. m. Amount, 0.620 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force					Direction.	Force.					Direction.	Force.		
1864. June 7	0	NW.	3	C. K.	6	1864. June 8	0	NW.	1	C.	2	1864. June 9	0	S.	2	C. K.	10
	3	N.	2	C. K.	8		3	N.	1	C.	4		3	S.	2	K.	10
	6	NW.	2	C. K.	10		6	S.	1	C. K.	10		6	S.	1	K.	10
	9	N. NE.	2	C. K.	10		9	S.	2	C. K.	8		9	SW.	2	C. K.	9
	Noon	NE.	2	C. K.	9		Noon	S.	3	C. K.	10		Noon	SW.	3	C. K.	4
	3	E.	2	Hazy			3	S.	2	C. K.	8		3	SW.	3	C. K.	7
	6	SE.	2	Hazy			6	S.	2	C. K.	7		6	SW.	2	C. K.	8
	9	SE.	1	C.	2		9	S.	2	K.	10		9	W.	1	K.	10
June 10	0	SW.	1	C.	4	June 11	0	N.	1	C. K.	8	June 12	0	NE.	2	C. K.	8
	3	W.	2	N.	10		3	NW.	1	C. K.	3		3	N.	1	C. K.	7
	6	NW.	3	C.	3		6	NE.	2	C. K.	8		6	N. NW.	2	C. S.	2
	9	NW.	4	S.	2		9	NE.	2	C. K.	6		9	NE.	2	C.	1
	Noon	NW.	3	C.	1		Noon	NE.	1	C. K.	3		Noon	N.	3	C. K.	4
	3	NW.	2	C.	1		3	N.	2	C. K.	7		3	NE.	2	C. K.	6
	6	N.	1	C.	4		6	NE.	2	C. K.	9		6	N.	1	C. K.	6
	9	N.	1	C. K.	4		9	NE.	2	C. K.	9		9	N.	1	C. S.	2
June 13	0	NW.	1	Clear	0	June 14	0	N.	1	Clear	0	June 15	0	W.	1	C. K.	8
	3	N. NW.	1	Clear	0		3	N.	1	C. K.	4		3	NW.	2	C.	1
	6	N.	1	Clear	0		6	NW.	2	C. K.	7		6	NW.	1	Clear	0
	9	N.	1	Hazy			9	NW.	1	K.	10		9	SE.	1	Hazy	
	Noon	E. NE.	2	C. K.	4		Noon	N. NW.	1	C. K.	10		Noon	SW.	1	C.	2
	3	E. NE.	1	C. K.	6		3	NE.	1	C. K.	7		3	SW.	1	C. K.	2
	6	E.	1	C. K.	7		6	NE.	1	C. S.	5		6	N.	1	C. K.	4
	9	N.	1	C.	1		9	NW.	1	C.	1		9	NW.	1	C.	3
June 16	0	NW.	1	Clear	0	June 17	0	NW.	2	Hazy		June 18	0	E.	1	Hazy	
	3	NW.	2	Hazy			3	NW.	1	Hazy			3	E.	1	C.	4
	6	W.	2	Hazy			6	NW.	1	Hazy			6	N.	1	Hazy	
	9	NW.	4	Hazy			9	N. NW.	1	Hazy			9	E.	1	Hazy	
	Noon	NW.	4	Hazy			Noon	N. NW.	2	C. K.	2		Noon	E. NE.	2	C.	4
	3	NW.	3	Hazy			3	N.	2	C. K.	4		3	E.	2	C.	3
	6	NW.	2	Hazy			6	E. NE.	2	Hazy			6	E.	1	C.	6
	9	NW.	1	Clear	0		9	E.	2	Hazy			9	NE.	1	C.	
June 19	0	N. NE.	1	C. K.	1	June 20	0	NW.	1	C. S.	6	June 21	0	NW.	1	Clear	0
	3	NE.	1	C. K.	9		3	NW.	1	C. K.	8		3	NW.	1	C.	4
	6	NE.	1	K.	10		6	W.	1	C. K.	10		6	W. NW.	1	Clear	0
	9	N. NE.	1	C. K.	10		9	E.	1	C. K.	9		9	E.	1	Hazy	
	Noon	S. SW.	1	C. K.	10		Noon	S.	1	C. K.	6		Noon	SE.	2	Hazy	
	3	SW.	1	C. K.	10		3	S.	1	C. K.	7		3	E.	2	C. K.	3
	6	E.	1	C. K.	10		6	S.	1	C. K.	4		6	E.	3	Hazy	
	9	W.	1	C. K.	8		9	S.	1	Clear	0		9	E.	2	Clear	0

REMARKS.

June 9. Raining lightly at 4h., 5h. 38m., and 6h. 10m. p. m. Amount, 0.084 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. June 22	0	E.	2	C.	3	1864. June 23	0	S. SW.	1	Hazy		1864. June 24	0	W.	1	C.	6
	3	E.	1	C.	4		3	SW.	1	Hazy			3	SW.	1	C.	3
	6	NE.	1	C. K.	2		6	NW.	1	C.	2		6	NW.	2	C.	10
	9	SE.	1	C.	4		9	W. NW.	2	Hazy			9	W.	1	C.	3
	Noon	S.	1	C.	3		Noon	NW.	3	C.	10		Noon	SW.	1	Hazy	
	3	S.	1	C.	4		3	NW.	3	C. K.	3		3	NW.	1	Hazy	
	6	SW.	1	C.	4		6	NW.	2	C.	10		6	W. NW.	1	Hazy	
	9	SW.	1	C.	3		9	NW.	1	C. K.	6		9	W.	1	Hazy	
June 25	0	W.	1	Hazy		June 26	0	W.	1	Clear	0	June 27	0	NW.	1	C. K.	1
	3	W. NW.	1	Hazy			3	S.	1	Clear	0		3	W.	1	C. S.	3
	6	NW.	2	Hazy			6	S. SW.	1	Clear	0		6	SW.	1	C. S.	2
	9	NW.	2	Hazy			9	W. NW.	2	Clear	0		9	NW.	3	C. K.	8
	Noon	NW.	3	C. K.	1		Noon	W.	3	C. K.	4		Noon	NW.	3	C. K.	6
	3	NW.	3	C. K.	4		3	W.	2	C. K.	6		3	N.	3	C. K.	7
	6	NW.	2	Clear	0		6	W.	2	C. K.	10		6	N. NE.	4	K.	10
	9	W.	1	Clear	0		9	W.	1	C. K.	3		9	NE.	2	C.	6
June 28	0	NW.	1	Clear	0	June 29	0	NW.	1	Clear	0	June 30	0	SE.	2	C.	2
	3	N.	2	C.	6		3	NW.	2	Clear	0		3	SE.	2	C.	4
	6	N.	2	C. K.	3		6	S.	1	Clear	0		6	S.	2	C. K.	8
	9	NE.	2	C.	1		9	S.	2	Hazy			9	SW.	2	C.	6
	Noon	E.	1	C.	1		Noon	SW.	3	Hazy			Noon	S.	2	C. K.	8
	3	SE.	1	C.	1		3	S.	3	C. K.	10		3	E.	3	K.	10
	6	E.	1	Clear	0		6	S. SE.	3	C. K.	10		6	SE.	2	C.	4
	9	S. SW.	1	Clear	0		9	S.	3	C.	4		9	W.	1	C.	3
July 1	0	W.	1	C. K.	8	July 2	0	Calm	0	K.	10	July 3	0	NW.	3	C. S.	2
	3	SW.	1	C. K.	7		3	S.	1	K.	10		3	N.	2	C. K.	6
	6	W.	1	N.	10		6	N. NE.	1	C. K.	7		6	NW.	2	C.	4
	9	SW.	1	C.	4		9	SE.	1	C.	6		9	NW.	2	C. K.	3
	Noon	S.	1	C. K.	9		Noon	SW.	2	C. K.	8		Noon	W.	1	C. K.	9
	3	SE.	1	C. K.	7		3	NW.	2	C. K.	8		3	W.	2	C. K.	2
	6	S.	1	C. K.	6		6	SE.	2	C. K.	7		6	S.	1	C. K.	3
	9	Calm	0	C. K.	8		9	NW.	2	C. S.	1		9	W.	1	C. K.	6
July 4	0	NW.	1	C. K.	8	July 5	0	SW.	1	Clear	0	July 6	0	N.	1	Clear	0
	3	NW.	2	K.	10		3	W.	1	Clear	0		3	N.	1	C.	4
	6	N.	2	C. K.	7		6	NW.	1	Clear	0		6	S.	1	C. K.	6
	9	N. NE.	3	C.	4		9	W.	1	Clear	0		9	SE.	2	C. K.	6
	Noon	N.	2	C. K.	8		Noon	NE.	1	C.	2		Noon	S.	1	C. K.	5
	3	NW.	1	C.	10		3	SE.	2	Hazy			3	S.	2	C. K.	4
	6	W.	1	C.	3		6	E. SE.	2	Hazy			6	S.	2	C.	3
	9	SW.	1	Clear	0		9	N.	1	C.	1		9	S.	1	C. S.	2

REMARKS.

June 26. Thunder at 2h. 30m. p. m. Light shower of rain at 3h. 10m. p. m.
27. Light shower of rain, with lightning and thunder, at 2h. 30m. p. m.
30. Light showers of rain at 11h. 40m. a. m. and 3h. p. m. Amount, 0. 080 inch.
July 1. Commenced raining at 5h. a. m. Rainbow in the morning. Lightning in the east and south during the night. Rain during the day, 0. 070 inch.
2. Thunder at 0h. 45m. p. m. Rain and heavy wind from 1h. 45m. to 2h. 10m. p. m. Amount, 0. 145 inch.
3. A few drops of rain at 2h. 20m. p. m.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. July 7	0	SW.	1	C. K.	4	1864. July 8	0	Calm	0	K.	10	1864. July 9	0	SE.	1	C. S.	2
	3	SW.	1	Clear	0		3	NW.	1	C.	4		3	E.	1	C. K.	9
	6	SW.	1	Clear	0		6	NW.	1	C. K.	6		6	NE.	1	C. K.	6
	9	S.	1	C. K.	10		9	NW.	3	C.	2		9	S. SE.	1	C. K.	7
	Noon	S. SE.	3	C. K.	9		Noon	NW.	4	C. K.	7		Noon	SE.	2	C. K.	8
	3	SW.	2	C. K.	9		3	NW.	3	C. K.	9		3	SE.	3	C. K.	9
	6	SW.	1	C. K.	7		6	NE.	2	C. K.	6		6	S. SE.	3	C. K.	7
	9	NW.	1	C.	3		9	E.	3	C. S.	2		9	SE.	2	Clear	0
July 10	0	SE.	1	C.	2	July 11	0	S.	1	C. K.	4	July 12	0	SW.	1	Clear	0
	3	SW.	1	C. K.	6		3	S.	1	C. K.	6		3	SW.	1	C.	4
	6	S.	2	C. K.	8		6	S.	1	C. K. S.	8		6	W.	1	C. K.	3
	9	SE.	2	C.	3		9	S.	1	C. K.	9		9	NW.	1	C.	1
	Noon	S.	3	C.	2		Noon	N.	1	C. K.	8		Noon	N.	1	C. K.	7
	3	S.	3	C. K.	6		3	N.	1	N.	10		3	N.	1	C. K.	8
	6	S.	2	C. K.	5		6	SW.	2	C. K.	9		6	E.	1	C.	2
	9	S.	2	C. K.	7		9	SW.	1	C. S.	5		9	S.	1	C. K.	3
July 13	0	NW.	1	C. K.	6	July 14	0	N.	1	C. K.	6	July 15	0	NE.	1	C. K.	8
	3	NW.	3	C. K.	9		3	N.	1	Clear	0		3	N.	1	C.	1
	6	N.	2	C.	4		6	N.	1	C. K.	4		6	NE.	1	C.	4
	9	NE.	2	C. K.	9		9	NE.	1	C. S.	4		9	NE.	2	C.	2
	Noon	NE.	2	C. K.	3		Noon	E. SE.	2	C. K.	4		Noon	NE.	3	C. K.	3
	3	E.	3	C. K.	6		3	E.	2	C. K.	4		3	N. NE.	3	C. K.	6
	6	E.	2	C. K.	6		6	SE.	1	C.	1		6	NE.	3	C. K.	2
	9	E.	1	S.	1		9	SE.	1	C.	2		9	NE.	1	Clear	0
July 16	0	NE.	1	Clear	0	July 17	0	NE.	1	C.	2	July 18	0	NE.	1	Clear	0
	3	NE.	1	Clear	0		3	NW.	2	Clear	0		3	N.	1	Clear	0
	6	N.	2	Clear	0		6	N.	1	Clear	0		6	N.	1	C. K.	6
	9	NE.	2	Hazy			9	S.	1	Hazy			9	NE.	1	C.	4
	Noon	NE.	2	Hazy			Noon	SW.	1	Hazy			Noon	NE.	2	C.	6
	3	NE.	1	Hazy			3	E. SE.	2	Hazy			3	E.	2	C. K.	6
	6	NE.	1	Hazy			6	E. SE.	1	C.	1		6	E.	2	C. K.	9
	9	SW.	1	C.	1		9	SE.	1	C.	1		9	E.	1	C. K.	8
July 19	0	E. NE.	1	C. K.	3	July 20	0	S.	1	C. K.	4	July 21	0	SW.	1	C. K.	3
	3	N. NE.	1	C. K.	6		3	SW.	1	K.	10		3	NW.	1	C.	3
	6	NE.	1	C. K.	8		6	SW.	1	C. K.	10		6	NW.	3	C.	5
	9	NE.	1	C. K.	5		9	S.	1	C. K.	6		9	NW.	2	C. K.	7
	Noon	SE.	2	C. K.	6		Noon	SE.	2	C.	1		Noon	N. NW.	3	Hazy	
	3	SE.	1	C. K.	7		3	SE.	1	C. K.	4		3	W. NW.	3	Hazy	
	6	SW.	2	C. K.	3		6	W.	2	K.	9		6	N. NW.	2	Hazy	
	9	SE.	1	C.	6		9	E. SE.	1	N.	9		9	N.	1	C.	4

REMARKS.

July 7. Rain, with lightning and thunder, at 7h. 20m. p. m.; continued during the first part of the night. Amount, 0.020 inch.
8. At 9h. p. m. a bright meteor appeared moving from E. NE., leaving a train of light in its track about 15° in length.
11. A shower of rain at 11h. 45m. a. m. Amount, 0.122 inch.
12. A shower of rain at 3h. p. m. Amount, 0.335 inch. Many shooting stars.
13. A large number of shooting stars.
19. The Aurora Borealis very brilliant from 9h. 30m. to 11h. p. m. Streamers reaching nearly to the zenith.
20. Rain, with thunder and lightning, at 7h. 30m. p. m. Amount, 0.012 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. July 22	0	N.	1	C.	4	1864. July 23	0	NW.	1	Hazy		1864. July 24	0	W.	1	Hazy	
	3	NW.	1	Hazy			3	NW.	1	Hazy			3	NW.	1	Hazy	
	6	NW.	1	Hazy			6	N.	1	Hazy			6	NW.	1	Hazy	
	9	NW.	1	Hazy			9	SW.	1	Hazy			9	NW.	1	Hazy	
	Noon	NW.	2	Hazy			Noon	SE.	1	Hazy			Noon	E.	1	C.	6
	3	N.	2	C.	4		3	NE.	1	Hazy			3	E.	1	C.	6
	6	N.	1	C.	6		6	NE.	1	C. K.	10		6	E.	1	K.	10
	9	N.	1	Hazy			9	SE.	1	Hazy			9	NE.	1	K.	10
July 25	0	N.	1	K.	10	July 26	0	NW.	1	Clear	0	July 27	0	NW.	1	Hazy	
	3	N. NE.	2	N.	10		3	NW.	2	C.	3		3	NW.	1	Hazy	
	6	NE.	3	N.	10		6	SE.	1	C. K.	4		6	W.	1	Hazy	
	9	NW.	3	N.	10		9	SW.	1	C.	2		9	SE.	1	Hazy	
	Noon	W.	4	K.	10		Noon	W.	1	Hazy			Noon	W.	1	C.	10
	3	SW.	3	C. K.	9		3	SW.	1	Hazy			3	W. NW.	1	C. K.	10
	6	SW.	2	C. K.	9		6	SW.	1	Hazy			6	SW.	1	C. K.	10
	9	NW.	1	Clear	0		9	SW.	1	Hazy			9	S.	1	C.	4
July 28	0	W.	1	C.	4	July 29	0	SW.	1	C.	2	July 30	0	NW.	1	Clear	0
	3	SW.	1	K.	8		3	S.	1	Hazy			3	NW.	1	Clear	0
	6	SW.	1	C. K.	8		6	SW.	1	Hazy			6	N. NE.	1	C. K.	7
	9	S. E	1	Hazy			9	W.	1	C. K.	7		9	W.	1	C. K.	6
	Noon	SW.	1	C.	3		Noon	W.	3	C. K.	3		Noon	W. NW.	2	C. K.	7
	3	SW.	1	C. K.	4		3	W. NW.	3	C. K.	3		3	NW.	2	C.	2
	6	SW.	1	C.	2		6	NW.	2	C. K.	4		6	W.	1	C.	4
	9	SW.	1	C.	4		9	NW.	1	C.	2		9	W.	1	Clear.	0
July 31	0	NW.	1	C. S.	2												
	3	W.	1	Clear	0												
	6	W.	1	C. S.	4												
	9	E. SE.	1	Hazy													
	Noon	SW.	1	Hazy													
	3	S.	1	Hazy													
	6	SW.	1	Hazy													
	9	W.	1	C.	4												
Aug. 1	0	SW.	1	K.	10	Aug. 2	0	W.	1	S.	1	Aug. 3	0	N.	1	C.	3
	3	SW.	1	C. S.	4		3	NW.	1	C.	2		3	N.	1	S.	2
	6	S.	1	C. K.	9		6	S.	1	C. S.	4		6	NW.	3	C. K.	8
	9	S.	1	C. K.	6		9	S. SW.	1	C. K.	10		9	NW.	2	C. S.	4
	Noon	S. SE.	2	C.	7		Noon	S. SW.	1	C. K.	8		Noon	W. NW.	3	C. K.	6
	3	S.	3	C. K.	3		3	S. SE.	1	C. K.	4		3	NW.	4	C. K.	8
	6	S.	2	C. K.	8		6	SW.	3	N.	10		6	NW.	4	C. K.	2
	9	SW.	1	C. K.	3		9	Calm	0	K.	9		9	NW.	2	C. S.	1

REMARKS.

July 24. Raining lightly at 10h. 15m. p. m.
25. Commenced raining at 1h. 20m. a. m. Amount, 0.650 inch.
29. Several mall smeteors from 1h. to 3h. a. m.; course, northward. Lightning from 8h. to 12h. p. m.
30. Lightning at 1h. a. m.
August 2. Light showers of rain at noon and 6h. p. m. Lightning during the first part of the night. Amount of rain, 0. 074 inch.
3. Several meteors appeared from 8h. to 10h. p. m.; some of the 2d magnitude. General direction of course, south.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. Aug. 4	0	NW.	2	C. K.	3	1864. Aug. 5	0	NW.	1	S.	1	1864. Aug. 6	0	NE.	1	C. K.	10
	3	NW.	2	C. K.	10		3	NW.	1	Clear	0		3	NE.	1	K.	10
	6	W.	1	C. K.	9		6	NW.	1	Hazy			6	N.	1	N.	10
	9	NW.	3	C. K.	8		9	N.	1	C.	2		9	NE.	2	C. K.	7
	Noon	NW.	2	C. K.	5		Noon	W.	1	C. K.	4		Noon	E.	1	C. K.	10
	3	W.	2	C. K.	3		3	W.	1	C. K.	7		3	NE.	1	N.	10
	6	NW.	2	C. K.	3		6	E.	3	C. K.	4		6	E. NE.	1	C. K.	3
	9	SW.	1	S.	2		9	NE.	3	C. S.	2		9	SE.	1	C.	1
Aug. 7	0	SE.	1	K.	10	Aug. 8	0	NW.	2	S.	2	Aug. 9	0	NW.	1	Hazy	
	3	W.	1	K.	10		3	NW.	1	Clear	1		3	NW.	1	Hazy	
	6	NW.	1	C. K.	10		6	NW.	1	C.	8		6	NW.	1	Hazy	
	9	NW.	1	C.	6		9	N.	1	Hazy			9	SW.	1	Hazy	
	Noon	NW.	2	C. K.	10		Noon	S.	1	Hazy			Noon	W.	1	Hazy	
	3	W.	1	C. K.	8		3	S.	1	Hazy			3	SW.	1	Hazy	
	6	W.	1	C. K.	9		6	S.	1	Hazy			6	SW.	1	Hazy	
	9	NW.	2	Clear	0		9	SW.	1	Hazy			9	S. SW.	1	Hazy	
Aug. 10	0	S.	1	Hazy		Aug. 11	0	SW.	1	Hazy		Aug. 12	0	NE.	1	C.	3
	3	S. SW.	1	Hazy			3	SW.	1	Hazy			3	N.	1	C.	1
	6	S.	1	Hazy			6	W.	1	Hazy			6	NE.	1	S.	1
	9	S. SW.	1	Hazy			9	W.	1	Hazy			9	NE.	1	C.	4
	Noon	SW.	1	Hazy			Noon	SW.	1	C.	1		Noon	S.	1	C.	7
	3	SE.	2	C. K.	3		3	S.	2	C. K.	4		3	S. SE.	2	Hazy	
	6	S.	1	C.	2		6	W.	1	C. K.	5		6	S.	1	K.	2
	9	SW.	1	C.	1		9	N.	1	C. K.	10		9	E.	1	S.	1
Aug. 13	0	E.	1	C.	2	Aug. 14	0	SW.	1	C. K.	9	Aug. 15	0	N.	1	C. K.	8
	3	N.	1	C.	3		3	NW.	1	C. K.	5		3	N.	1	C. S.	4
	6	S.	1	C.	1		6	W.	1	C. S.	4		6	N.	1	C. K. S.	3
	9	S.	1	S.	1		9	NW.	1	C. K.	8		9	E.	1	C. K.	9
	Noon	SE.	1	C.	1		Noon	NW.	1	C. K.	4		Noon	S.	1	C. K.	10
	3	SW.	1	C. K.	3		3	S.	1	C. K.	10		3	E.	2	C. K.	9
	6	S.	1	C. K.	8		6	N.	1	C. K.	8		6	E.	2	C. K.	5
	9	E. SE.	1	C. K.	8		9	W.	1	C. K.	9		9	NE.	1	C. S.	1
Aug. 16	0	NE.	1	K.	10	Aug. 17	0	S. SE.	1	C. K.	8	Aug. 18	0	NW.	1	C. K.	9
	3	NE.	2	C. K.	4		3	S.	1	C. K.	10		3	NW.	1	C. K.	9
	6	NE.	2	C. K.	9		6	S. SW.	1	C. K.	6		6	N. NE.	2	C. K.	10
	9	E. SE.	2	C. K.	9		9	SW.	1	C. K.	3		9	N. NE.	2	N.	10
	Noon	SE.	2	C. K.	9		Noon	SW.	2	C. K.	7		Noon	N.	1	C. K.	10
	3	SE.		C. K.	8		3	N. NW.	1	C. K.	8		3	N.	1	C. K.	10
	6	E. SE.	1	C. K.	9		6	SE.	1	C. K.	10		6	N.	1	C. K.	10
	9	NE.	1	C. K.	10		9	W.	1	C. K.	10		9	N.	1	K.	10

REMARKS.

August 6. Lightning during the night. Commenced raining at 4h. a. m. Amount of rain, 0. 586 inch.
7. Rain at 0h. 30m. a. m., with sharp lightning and thunder. Amount of rain, 0. 100 inch. Several meteors during the night.
10. Numerous meteors during the night. Some very brilliant.
11. A light shower of rain at 8h. p. m., with lightning and thunder. Amount of rain, 0. 006 inch.
12. Meteors very numerous after midnight; course, S. SW.
13. A moderate shower of rain, with sharp lightning and thunder, at 7h. p. m. Amount of rain, 0. 124 inch.
14. Thunder at 3h. p. m. Rain, with lightning and thunder, at 3h. 30m. p. m. Lightning during the night.
15. Light shower of rain at 4h. p. m. Lightning in SW. during the evening. Amount of rain, 0. 004 inch.
16. Light showers at 2h., 3h., and 6h. p. m. Lightning in the south and east during the evening. Amount of rain, 0. 100 inch.
17. Several showers during the day, with much lightning and thunder. Amount of rain, 0. 140 inch.
18. Raining moderately at 8h. a. m. Amount, 0. 260 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force					Direction.	Force.		
1864. Aug. 19	0	NW.	1	K.	10	1864. Aug. 20	0	N. NE.	1	K.	10	1864. Aug. 21	0	NE.	1	K.	10
	3	NW.	1	K.	10		3	NE.	2	K.	10		3	N.	1	K.	10
	6	N. NE.	2	K.	10		6	NE.	2	Mist	10		6	N.	1	K.	10
	9	NE.	2	N.	10		9	NE.	1	K.	10		9	N.	1	K.	10
	Noon	NE.	2	N.	10		Noon	E.	1	N.	10		Noon	N.	1	K.	10
	3	NE.	2	N.	10		3	E. NE.	2	N.	10		3	E.	1	K.	7
	6	NE.	1	N.	10		6	E.	2	N.	10		6	E.	1	C.	2
	9	NE.	1	K.	10		9	NE.	1	K.	10		9	NE.	1	C.	2
Aug. 22	0	NE.	1	C. K.	8	Aug. 23	0	W.	1	C. K.	9	Aug. 24	0	W.	1	C. K.	10
	3	NE.	1	C. K.	10		3	W. NW.	1	K.	10		3	NW.	1	K.	10
	6	S.	1	K.	10		6	W. NW.	1	C. K.	9		6	NW.	1	C. K.	7
	9	S.	1	K.	10		9	NW.	1	Hazy			9	S.	1	K.	10
	Noon	S. SE.	1	C. K.	8		Noon	W. NW.	1	Hazy			Noon	S.	1	C. K.	5
	3	S. SW.	3	K.	10		3	SW.	1	Hazy			3	S.	1	Hazy C.	2
	6	N. NW.	1	C. K.	9		6	SW.	1	C.	5		6	S.	1	C.	4
	9	NW.	1	C. K.	10		9	W.	1	Hazy			9	SW.	1	C. S.	2
Aug. 25	0	NW.	1	C. K.	6	Aug. 26	0	NW.	1	C. K.	10	Aug. 27	0	W.	3	C. K.	10
	3	W.	1	C. K.	5		3	W. NW.	1	Clear	0		3	E. SE.	1	C. K.	7
	6	SW.	1	C. K.	6		9	SW.	1	C. S.	1		6	NE.	1	C. K.	10
	9	SW.	1	K.	10		6	NW.	2	Hazy			9	W. NW.	1	C. K.	5
	Noon	SW.	1	K.	9		Noon	W. NW.	1	Hazy			Noon	W. NW.	1	K.	3
	3	N. NW.	2	K.	10		3	S.	1	Hazy			3	NW.	1	K.	7
	6	S.	1	K.	10		6	SE.	1	C. K.	9		6	NW.	1	K.	7
	9	NW.	2	K.	10		9	SE.	2	K.	10		9	SE.	1	K.	10
Aug. 28	0	SW.	1	C.	1	Aug. 29	0	NW.	1	C. K.	4	Aug. 30	0	NW.	1	C. K.	3
	3	W.	1	C. S.	2		3	W.	1	C. S.	2		3	NW.	1	C. K.	10
	6	NW.	2	Clear	0		6	W.	1	C. K.	6		6	W. NW.	1	C.	2
	9	W.	2	K.	1		9	S.	1	C.	2		9	NW.	1	C.	1
	Noon	W.	1	K.	9		Noon	NW.	2	C. K.	7		Noon	NW.	1	C.	3
	3	SW.	2	K. S.	7		3	NW.	2	C. K.	9		3	W.	1	C. K.	4
	6	W. NW.	1	K.	7		6	NW.	1	C.	3		6	N.	1	C. K.	6
	9	W. NW.	1	C. K.	4		9	NW.	1	Clear	0		9	NW.	1	C. K.	7
Aug. 31	0	NW.	1	C.	1												
	3	NW.	1	Clear	0												
	6	NW.	2	C. K.	3												
	9	NW.	2	C. K.	7												
	Noon	N.	1	C. K.	7												
	3	N.	3	C. K.	9												
	6	N.	1	C.	1												
	9	NW.	1	Clear	0												

REMARKS.

August 19. A light shower of rain at 4h. a. m.
21. Lightning in the NW. from 7h. 30m. to 9h. p. m.
22. Heavy shower of rain at 4h. 30m. p. m. Light shower at 6h. 30m. p. m. Amount of rain, 1. 350 inch.
25. A shower of rain at 5h. p. m.; wind N. Lightning in the S. at 7h. and 8h. p. m. Amount of rain, 0. 300 inch.
26. Intense lightning in the SW. and NW. during the evening, and distant thunder after 9h. p. m.
27. Lightning during the night.
28. Slight rain at 5h. 40m. p. m.
31. A few shooting stars during the night.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Sept. 1	0	NW.	2	Clear	0	Sept. 2	0	NW.	1	Clear	0	Sept. 3	0	N.	1	C. K.	10
	3	NW.	1	Clear	0		3	NW.	1	Clear	0		3	NE.	1	C. K.	10
	6	N. NW.	1	Clear	0		6	NW.	1	Clear	0		6	E. NE.	1	C. K.	10
	9	N. NE.	1	Clear	0		9	S.	1	Hazy			9	S. SE.	1	C. K.	10
	Noon	NW.	2	Clear	0		Noon	SE.	1	C.	6		Noon	S. SE.	2	C. K.	10
	3	N.	1	Clear	0		3	SE.	1	C.	7		3	S. SE.	2	C. K.	10
	6	N.	1	C. K.	10		6	E. SE.	1	C.	3		6	SE.	2	C. K.	10
	9	N. NW.	1	C. K.	4		9	SE.	1	C. S.	5		9	SE.	1	K.	10
Sept. 4	0	E. NE.	1	N.	10	Sept. 5	0	SE.	1	N.	10	Sept. 6	0	NE.	3	N.	10
	3	SE.	2	K.	10		3	S.	1	N.	10		3	NE.	2	N.	10
	6	SE.	1	C. K.	9		6	W.	1	K.	10		6	NE.	3	N.	10
	9	SE.	1				9	NW.	1	C. K.	10		9	N. NE.	3	N.	10
	Noon	SE.	1				Noon	E.	2	C. K.	9		Noon	NE.	2	N.	10
	3	SE.	1	K.	9		3	NE.	3	C. K.	9		3	NE.	3	N.	10
	6	E. SE.	1	K.	10		6	NE.	4	N.	10		6	NE.	3	N.	10
	9			C. S.	2		9	NE.	3	N.	10		9	N. NE.	1	K.	10
Sept. 7	0	NW.	1	K.	10	Sept. 8	0	N.	1	Clear	0	Sept. 9	0	NW.	1	K.	10
	3	N. NW.	1	K.	2		3	N.	1	C.	2		3	N.	1	Mist	10
	6	NW.	2	Clear	0		6	N. NW.	1	C. K.	10		6	NW.	1	Mist	10
	9	NE.	2	C.	1		9	S.	1	C. K.	7		9	N. NW.	1	K.	10
	Noon	NE.	2	C.	1		Noon	SW.	1	C. K.	9		Noon	NW.	1	C. K.	4
	3	E.	2	C. K.	4		3	SE.	1	N.	10		3	W.	1	C.	2
	6	E. NE.	1	C.	3		6	SW.	1	K.	10		6	S. SW.	1	C. K.	9
	9	E.	1	C. K.	2		9	W.	1	K.	10		9	S.	1	C. S.	2
Sept. 10	0	S.	1	C. K.	8	Sept. 11	0	SW.	1	K.	10	Sept. 12	0	NW.	1	K.	7
	3	S. SW.	1	C. K.	9		3	W.	1	C. K.	8		3	Calm	0	K.	8
	6	S. SW.	1	C. K.	8		6	NW.	1	N.	10		6	N.	1	C. K.	9
	9	W.	1	K.	10		9	NW.	1	K.	9		9	N. NW.	1	K.	10
	Noon	NW.	2	C. K.	9		Noon	NW.	3	C. K.	7		Noon	NW.	4	K.	10
	3	W.	1	C. K.	8		3	NW.	3	C. K.	6		3	N.	3	K.	10
	6	W.	1	C. S.	4		6	NW.	1	C. K.	8		6	N. NW.	3	C.	1
	9	SW.	1	C. K.	10		9	NW.	1	C.	3		9	NW.	2	Clear	0
Sept. 13	0	NW.	2	Clear	0	Sept. 14	0	NW.	3	C.	1	Sept. 15	0	NW.	1	K.	10
	3	NW.	2	C.	2		3	NW.	2	Clear	0		3	NW.	1	C.	4
	6	N. NW.	2	C. S.	2		6	W.	1	C. K.	9		6	W.	1	C. K. S.	[illegible]
	9	NW.	3	C. K.	3		9	SE.	1	C. K.	9		9	NW.	2	C. K.	7
	Noon	NW.	4	C. K.	2		Noon	S.	1	N.	10		Noon	SW.	4	C. K.	3
	3	NW.	4	C. K.	6		3	S.	1	C. K.	10		3	SW.	3	C. K.	4
	6	W.	1	C.	2		6	S.	1	C. K. S.	3		6	W.	1	C. K.	7
	9	W.	1	Clear	0		9	NE.	1	C. K.	10		9	NW.	2	K.	10

REMARKS.

September 2. A few drops of rain at 11h. 10m. p. m.
3. Raining lightly at 10h. p. m. Amount, 0.010 inch.
4. Commenced raining heavily at midnight.
5. Rain and thunder from 5h. 30m. to 6h. p. m. Amount of rain, 0.320 inch.
8. Raining lightly at 2h., 3h., and 4h. p. m.
10. Light shower sof rain at 2h. 30m. and 7h. 35m. a. m.
11. A heavy shower at 2h. a. m.; continued raining till 9h. a. m. Showers at 0h. 15m., 1h. 25m., and 5h. p. m. Amount of rain, 0.490 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. Sept. 16	0	NW.	1	C.	2	1864. Sept. 17	0	NW.	1	Clear	0	1864. Sept. 18	0	S.	1	C. K.	9
	3	NW.	1	C.	1		3	NW.	1	Clear	0		3	S.	1	C. K.	8
	6	NW.	1	Clear	0		6	NW.	1	Clear	0		6	S. SW.	1	C. K.	7
	9	NW.	2	C.	1		9	S.	1	C.	2		9	S.	2	C. K.	6
	Noon	NW.	3	C. K.	5		Noon	S. SE.	1	C. K.	5		Noon	S. SW.	2	K.	10
	3	NW.	2	C.	3		3	S. SW.	1	C. K.	4		3	S.	2	K.	10
	6	NW.	1	C. S.	2		6	S.	1	C.	1		6	S.	3	C. K. S.	10
	9	NW.	1	Clear	0		9	W.	1	C.	2		9	S.	1	C. K.	10
Sept. 19	0	S.	1	C. K.	8	Sept. 20	0	SW.	1	Clear	0	Sept. 21	0	S.	1	C. K.	8
	3	W.	1	C. K.	6		3	NW.	1	C. S.	2		3	W.	1	C. K.	10
	6	W.	1	C. K.	7		6	NW.	1	C. S.	2		6	NW.	1	Fog	
	9	NW.	2	C. K.	8		9	SW.	1	Clear	0		9	SW.	1	C. K.	10
	Noon	NW.	3	C. K.	4		Noon	SE.	1	C.	3		Noon	S.	1	C. K.	7
	3	NW.	2	C. K.	2		3	S.	1	C.	1		3	S.	1	C. K.	10
	6	N.	1	Clear	0		6	S.	1	C. S.	10		6	S.	1	K.	10
	9	NW.	1	Clear	0		9	SW.	1	C.	2		9	S.	1	K.	10
Sept. 22	0	W.	1	K.	10	Sept. 23	0	SE.	1	K.	10	Sept. 24	0	SE.	1	K.	10
	3	SW.	1	N.	10		3	SE.	1	N.	10		3	SE.	1	K.	10
	6	SW.	1	K.	9		6	E.	1	K.	10		6	S. SW.	1	C. K.	9
	9	SE.	1	C.	2		9	S. SW.	1	K.	10		9	SW.	1	N.	10
	Noon	SE.	1	C. K.	5		Noon	SE.	1	C. K.	10		Noon	SW.	3	C.	3
	3	E.	1	C. K.	4		3	SW.	1	C. K.	10		3	W.	2	N.	10
	6	SE.	1	C. K.	9		6	S.	1	K.	10		6	NW.	2	C. K. S.	4
	9	S.	1	C. K.	8		9	S.	1	K.	10		9	NW.	1	Clear	0
Sept. 25	0	NW.	6	Clear	0	Sept. 26	0	NW.	1	C.	1	Sept. 27	0	S. SW.	1	Clear	0
	3	NW.	3	Clear	0		3	NW.	1	Clear	0		3	W.	1	Clear	0
	6						6	W.	1	Clear	0		6	S.	1	Clear	0
	9	NW.	4	C. K.	3		9	SW.	1	S.	1		9	SW.	2	Clear	0
	Noon	NW.	3	C. K.	3		Noon	W.	2	C. S.	4		Noon	S. SW.	3	C.	6
	3	NW.	3	Clear	0		3	S.		Clear	0		3	S. SW.	3	C.	4
	6	W.	1	Clear	0		6	S. SW.	1	C.	1		6	S.	1	S.	1
	9	SW.	1	Clear	0		9	W.	1	Clear	0		9	S.	1	Clear	0
Sept. 28	0	SW.	1	Clear	0	Sept. 29	0	W.	1	K.	10	Sept. 30	0	S.	3	K.	10
	3	S.	2	Clear	0		3	SW.	1	K.	10		3	S.	3	N.	10
	6	SW.	2	C. K.	6		6	S.	1	K.	10		6	S. SW.	1	Mist	10
	9	S.	1	C. K.	8		9	S.	3	C. K.	7		9	NW.	2	K.	10
	Noon	N. NW.	2	C. S.	10		Noon	S.	3	C. K.	6		Noon	NW.	1	K.	10
	3	S.	1	C. K.	10		3	S.	3	C. K.	8		3	SW.	1	C. K.	8
	6	E.	1	C. K. S.	9		6	S.	2	C. K.	9		6	N.	2	C. K.	10
	9	S.	1	C. K.	8		9	S.	2	K.	10		9	N.	2	C. K.	3

REMARKS.

September 18. Raining lightly at 4h. p. m. Lunar halo at midnight.
22. Raining lightly at 1h. 45m. a. m.
23. Raining at 1h. 30m. a. m.
24. Raining at 8h. 50m. a. m.
28. Raining lightly at 11h. 55m. a. m. Lightning in the east from 8h. to 10h. p. m.
30. Commenced raining at 2h. 50m. a. m. Moderate showers at intervals during the morning. Amount, 0.210 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Oct. 1	0	N.NE.	2	K.	10	Oct. 2	0	NE.	2	N.	10	Oct. 3	0	SE.	1	K.	10
	3	NE.	2	K.	10		3	NE.	1	N.	10		3	E.	1	K.	10
	6	NE.	2	N.	10		6	N.	1	Mist	10		6	NE.	1	K.	10
	9	NE.	2	C.K.	10		9	N.	1	Mist	10		9	E.NE.	2	K.	10
	Noon	E.NE.	2	N.	10		Noon	W.	1	C.K.	10		Noon	E.SE.	1	K.	10
	3	NE.	2	N.	10		3	W.NW.	1	C.K.	8		3	E.	1	K.	10
	6	NE.	1	N.	10		6	W.	1	C.K.S.	10		6	NE.	1	K.	10
	9	NE.	1	N.	10		9	W.NW.	2	C.K.	7		9	NE.	1	K.	10
Oct. 4	0	E.	1	K.	10	Oct. 5	0	N.NE.	1	K.	10	Oct. 6	0	E.	1	K.	10
	3	NE.	1	Mist	10		3	E.	1	K.	10		3	SE.	1	Mist	10
	6	NE.	1	Mist	10		6	E.	1	Fog	10		6	E.SE.	1	Mist	10
	9	E.	1	Mist	10		9	SE.	1	Fog	10		9	S.SW.	1	C.K.	7
	Noon	SE.	1	K.	10		Noon	E.	1	Fog	10		Noon	S.	2	C.K.	6
	3	NE.	1	K.	10		3	S.	1	C.K.	10		3	SW.	2	K.S.	10
	6	E.	1	C.K.	10		6	E.	1	K.	10		6	S.	2	C.K.S.	10
	9	NE.	1	Hazy			9	E.	1	K.	10		9	S.	2	C.K.	6
Oct. 7	0	W.	2	C.	6	Oct. 8	0	W.	1	K.	10	Oct. 9	0	NW.	3	C.S.	4
	3	SW.	1	C.K.	4		3	NW.	5	C.K.	4		3	NW.	2	C.K.	6
	6	W.	1	Clear	0		6	NW.	3	C.S.	2		6	N.	2	C.S.	4
	9	W.NW.	1	Clear	0		9	W.	4	C.K.	5		9	NW.	4	C.K.	8
	Noon	W.	2	Clear	0		Noon	W.NW.	6	C.K.	6		Noon	NW.	3	C.K.	9
	3	SW.	2	C.	1		3	NW.	5	C.K.	5		3	NW.	4	C.K.	9
	6	S.SW.	1	Clear	0		6	NW.	4	C.S.	2		6	W.NW.	1	S.	1
	9	S.	1	Clear	0		9	NW.	3	C.K.	2		0	NW.	1	Clear	0
Oct. 10	0	W.	1	Clear	0	Oct. 11	0	S.	1	C.K.	7	Oct. 12	0	N.	1	C.K.	6
	3	NW.	2	Clear	0		3	W.	1	C.K.	8		3	N.NE.	1	C.	4
	6	SW.	1	Clear	0		6	W.NW.	1	Clear	0		6	N.NE.	1	C.K.	10
	9	S.	1	Clear	0		9	N.	1	Clear	0		9	E.	1	C.	5
	Noon	S.	3	C.	1		Noon	NW.	2	C.K.	3		Noon	S.	1	C.K.	8
	3	S.	3	C.	2		3	W.	1	C.K.	3		3	NW.	1	N.	10
	6	S.	1	C.S.	2		6	N.	1	Clear	0		6	NW.	1	C.K.S.	8
	9	S.SE.	1	C.K.	3		9	N.	1	C.	4		9	NW.	2	C.	2
Oct. 13	0	W.	1	C.K.	10	Oct. 14	0	W.	1	Clear	0	Oct. 15	0	NW.	1	C.K.	10
	3	W.NW.	1	C.K.	8		3	W.	2	Clear	0		3	W.	1	K.	10
	6	NW.	3	Clear	0		6	W.	1	C.S.	4		6	W.	1	C.K.	9
	9	NW.	2	C.K.	3		9	W.	3	C.	1		9	SW.	1	C.K.	10
	Noon	NW.	4	C.K.	6		Noon	W.NW.	4	C.K.	4		Noon	W.NW.	1	C.K.	7
	3	NW.	4	C.K.	4		3	NW.	3	C.	2		3	W.NW.	1	C.K.	9
	6	NW.	1	S.	1		6	S.SE.	1	Hazy			6	S.	1	C.K.	5
	9	NW.	2	Clear	0		9	NW.	1	Clear	0		9	NW.	1	N.	10

REMARKS.

October 1. Light showers of rain after 6h. a. m. Amount, 0.610 inch.
2. Amount of rain, 0.070 inch.
3. A light shower of rain at 4h. a. m.
9. Many meteors at 1h. and 2h. a. m.
10. A heavy white frost this morning, destroying the foliage of tender plants in exposed localities.
12. Commenced raining at 1h. 30m. p. m. Amount, 0.180 inch.
15. Commenced raining lightly at 8h. 50m. p. m.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. Oct. 16	0	NW.	1	K,	10	1864. Oct. 17	0	W. SW.	1	C. K.	9	1864. Oct. 18	0	S.	1	C. S.	4
	3	NW.	1	C. K.	10		3	W.	1	C. K.	7		3	W. NW.	1	C. S.	2
	6	NW.	1	C. K.	2		6	W.	2	Clear	0		6	W.	1	C. K.	6
	9	NW.	1	C. K.	9		9	SW.	2	C.	3		9	W. SW.	1	C. K.	6
	Noon	W. NW.	4	C.	2		Noon	NW.	2	Clear	0		Noon	SW.	1	C.	3
	3	W.	4	C.	1		3	W.	1	C.	1		3	W.	1	C.	2
	6	W. NW.	2	C. S.	2		6	W. SW.	1	C.	1		6	W.	1	Clear	0
	9	NW.	1	C.	1		9	W.	1	C.	1		9	W.	1	Clear	0
Oct. 19	0	W.	1	Clear	0	Oct. 20	0	NW.	1	C. K.	9	Oct. 21	0	NW.	1	Clear	0
	3	NW.	1	Clear	0		3	NW.	1	K.	10		3	NW.	1	Clear	0
	6	NW.	1	S.	1		6	NW.	1	K.	10		6	NW.	2	Fog	
	9	NW.	1	Clear	0		9	NW.	1	C. K.	6		9	NW.	1	Clear	0
	Noon	NW.	1	Clear	0		Noon	NW.	1	K.	10		Noon	W.	1	Clear	0
	3	NW.	1	C. K.	1		3	W. NW.	1	C. S.	2		3	W.	1	C.	2
	6	W.	1	C. S.	2		6	NW.	1	Clear	0		6	S.	1	C. S.	2
	9	W.	1	C. K.	8		9	NW.	1	Clear	0		9	SE.	1	C. K.	5
Oct. 22	0	W.	1	K.	10	Oct. 23	0	NW.	4	C. S.	3	Oct. 24	0	NW.	1	C. S.	6
	3	N. NW.	1	N.	10		3	NW.	3	Clear	0		3	NW.	1	C.	10
	6	N.	2	C. S.	3		6	W.	1	C.	3		6	NW.	2	C. S.	10
	9	NW.	4	C. K.	9		9	W.	1	C. K.	6		9	NW.	1	C. K.	7
	Noon	W.	4	C.	4		Noon	NW.	3	C. K.	9		Noon	W. NW.	1	C. K.	6
	3	NW.	4	C.	5		3	NW.	3	C. K.	8		3	N.	1	K.	10
	6	NW.	4	K.	10		6	NW.	1	K.	10		6	N.	1	C. S.	10
	9	NW.	4	K.	10		9	NW.	1	K.	10		9	N. NW.	1	C. K.	9
Oct. 25	0	NW.	1	S.	1	Oct. 26	0	NW.	1	Clear	0	Oct. 27	0	SE.	1	K.	10
	3	NW.	1	Clear	0		3	NW.	1	Clear	0		3	S.	1	K.	10
	6	NW.	1	Clear	0		6	NW.	1	Clear	0		6	S.	1	K.	10
	9	N.	3	Clear	0		9	NW.	1	C. S.	3		9	S.	1	N.	10
	Noon	N. NW.	2	C. K.	3		Noon	Calm	0	C.	8		Noon	S. SW.	3	C. K.	10
	3	N. NW.	2	C. K.	3		3	S. SE.	1	C. S.	9		3	S. SE.	2	K.	10
	6	N.	1	Clear	0		6	SE.	1	C. K.	7		6	S.	1	N.	10
	9	NW.	1	Clear	0		9	S. SE.	1	C. K.	10		9	S.	2	K.	10
Oct. 28	0	S.	2	N.	10	Oct. 29	0	NW.	3	S.	1	Oct. 30	0	NW.	1	Clear	0
	3	S. SW.	3	N.	10		3	NW.	2	Clear	0		3	NW.	2	Clear	0
	6	W.	3	C. S.	2		6	W.	1	Clear	0		6	NW.	1	Clear	0
	9	W.	3	C. S.	2		9	NW.	1	Clear	0		9	W.	1	S.	2
	Noon	W.	6	C. K.	7		Noon	NW.	2	C. K.	3		Noon	W.	2	C. S.	2
	3	W. NW.	4	C.	3		3	W. NW.	2	C. K.	3		3	N.	2	C.	3
	6	W.	3	C. S.	2		6	N.	1	S.	1		6	N. NW.	1	S.	1
	9	NW.	3	C. S.	2		9	W.	1	Clear	0		9	NW.	1	Clear	0

REMARKS.

October 22. Commenced raining at 0h. 35m. a. m. Amount, 0. 174 inch.

25. A few faint meteors about midnight.

27. A light shower at 8h. 30m. a. m.

29. At 9h. 43m. p. m. a meteor appeared about 8° below and south of Mars. It was faint at first, gradually brightening until it was more brilliant than Jupiter, and descended towards the earth at an inclination of 30° to the horizon, leaving a luminous train, and disappearing after describing an arc of about 40°.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Weather.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Oct. 31	0	N. NW.	1	Clear	0												
	3	W.	1	Clear	0												
	6	W.	1	S.	1												
	9	S.	1	C. K.	10												
	Noon	W. NW.	3	C. K.	8												
	3	W. NW.	2	C. K. S.	8												
	6	NW.	1	C. S.	2												
	9	NW.	1	K.	4												
Nov. 1	0	W.	1	K.	10	Nov. 2	0	N. NW.	1	C. K.	6	Nov. 3	0	NE.	1	K.	10
	3	NW.	2	Clear	0		3	NW.	1	K.	10		3	E.	1	N.	10
	6	NW.	1	Clear	0		6	N.	1	K.	10		6	NE.	1	N.	10
	9	NW.	2	S.	3		9	NE.	1	K.	10		9	NE.	1	N.	10
	Noon	NW.	1	C. S.	7		Noon	E.	1	K.	10		Noon	NE.	1	Mist	10
	3	NW.	1	C. S.	3		3	NE.	1	N.	10		3	NE.	1	N.	10
	6	N. NW.	1	S.	1		6	E.	1	N.	10		6	NE.	1	N.	10
	9	NW.	1	Clear	0		9	NE.	1	K.	10		9	NE.	1	N.	10
Nov. 4	0	NE.	1	N.	10	Nov. 5	0	W.	1	C. K.	8	Nov. 6	0	NW.	1	Clear	0
	3	N.	2	N.	10		3	NW.	2	K.	10		3	NW.	1	Clear	0
	6	W.	3	N.	10		6	W. NW.	1	K.	10		6	SE.	1	S.	1
	9	S. SW.	1	K.	10		9	NW.	2	C. K. S.	7		9	SE.	1	C.	7
	Noon	SW.	3	C. K.	7		Noon	NW.	6	C.	4		Noon	S. SE.	1	C.	10
	3	W. SW.	2	C. K. S.	8		3	NW.	4	C.	1		3	S.	1	C. K.	10
	6	W.	2	C. S.	4		6	NW.	1	Clear	0		6	SE.	1	S.	1
	9	W.	1	Clear	0		9	NW.	1	Clear	0		9	SE.	1	K.	10
Nov. 7	0	S.	2	K.	10	Nov. 8	0	SW.	1	Fog		Nov. 9	0	S.	1	N.	10
	3	S. SE.	2	K.	10		3	SE.	1	Fog			3	S.	2	K.	10
	6	S.	1	N.	10		6	SE.	1	Fog			6	S.	1	C. K.	10
	9	S.	1	N.	10		9	S.	1	Fog			9	S.	1	N.	10
	Noon	S.	1	N.	10		Noon	S.	1	C. K.	10		Noon	S.	2	K.	10
	3	S. SE.	1	N.	10		3	S.	1	K.	10		3	S.	2	C. K.	9
	6	S.	1	N.	10		6	SE.	1	K.	10		6	S.	1	C. K.	10
	9	SW.	1	K.	10		9	SE.	1	N.	10		9	S.	3	C. K.	10
Nov. 10	0	S. SE.	2	C. K.	10	Nov. 11	0	NW.	2	C. K.	10	Nov. 12	0	W.	1	C. K.	5
	3	S.	4	N.	10		3	NW.	1	C. K.	4		3	SW.	1	C. K.	6
	6	S.	4	K.	10		6	SW.	1	S.	1		6	S.	1	K.	10
	9	NW.	2	N.	10		9	W.	2	C. S.	2		9	S.	1	C. K.	9
	Noon	NW.	2	C. K.	1		Noon	W. SW.	2	S.	1		Noon	S.	2	C. K.	9
	3	NW.	3	Clear	0		3	SW.	1	C.	1		3	NW.	4	N.	10
	6	NW.	1	Clear	0		6	SW.	1	C. K. S.	3		6	W. NW.	5	C. K.	9
	9	W. NW.	1	C. S.	4		9	SE.	1	C. K.	9		9	NW.	4	S.	1

REMARKS.

November 1. A few snowflakes fell at 3h. p. m.
2. A few meteors at midnight. Commenced raining at 1h. p. m.
3. Hail at 1h. a. m.; rain at 2h. 30m. a. m. Amount, 0. 150 inch.
4. Rain during the morning. Amount, 0. 186 inch.
7. A moderate shower at 1h. a. m. Commenced raining steadily at 3h. 10m. a. m. Amount, 0. 600 inch.
8. Commenced raining at 6h. 20m. p. m , and continued till after midnight.
9. Light showers during the day. Amount of rain, 0.010 inch.
10. Rain at 1h. 30m., 3h., and 8h. 45m., a. m. Amount, 0.130 inch. A bright meteor appeared at 7h. p. m., starting from about 7° west of the zenith and descending in a line perpendicular to the plane of the horizon.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. Nov. 13	0	W. NW.	1	C. S.	3	1864. Nov. 14	0	W.	1	C. K.	1	1864. Nov. 15	0	N. NW.	1	Clear	0
	3	W.	2	C. K.	9		3	W.	1	C.	1		3	N.	1	C. K.	4
	6	W. NW.	1	C. K. S.	2		6	W. NW.	1	K.	10		6	E.	1	C. K.	8
	9	W.	3	C. S.	2		9	NW.	2	C. K.	9		9	S.	1	K.	10
	Noon	NW.	5	C. K.	5		Noon	NW.	3	C. K.	5		Noon	S. SW.	2	K.	10
	3	NW.	4	C. K.	8		3	NW.	2	C. K.	1		3	S.	1	C. K.	4
	6	NW.	2	C. S.	9		6	N.	1	Clear	0		6	NW.	1	C. K.	9
	9	NW.	2	C. K.	9		9	N. NW.	1	Clear	0		9	N. NW.	2	C. K.	8
Nov. 16	0	NW.	4	Clear	0	Nov. 17	0	NE.	1	K.	10	Nov. 18	0	S.	1	K.	10
	3	NW.	1	Clear	0		3	E. SE.	1	C. K.	7		3	S.	1	N.	10
	6	NW.	1	Clear	0		6	E. SE.	1	K.	10		6	S. SE.	1	N.	10
	9	N.	2	Clear	0		9	S.	1	K.	10		9	NW.	1	N.	10
	Noon	S.	1	C.	1		Noon	S.	1	K.	10		Noon	NW.	1	N.	10
	3	S.	1	C.	4		3	SE.	1	K.	10		3	N.	1	N.	10
	6	SE.	1	C. S.	2		6	S. SE.	1	C. K. S.	7		6	N.	1	N.	10
	9	SE.	1	S.	2		9	SE.	1	C. K.	6		9	N.	1	K.	10
Nov. 19	0	NW.	1	N.	10	Nov 20.	0	S.	1	K.	10	Nov. 21	0	NW.	1	K.	10
	3	NW.	1	K.	10		3	SW.	1	N.	10		3	NW.	1	K.	10
	6	NW.	1	N.	10		6	NW.	1	N.	10		6	W. SW.	1	K.	10
	9	N.	1	N.	10		9	N.	1	Mist	10		9	NW.	1	K.	10
	Noon	S. SE.	1	C. K.	6		Noon	N.	1	N.	10		Noon	N.	1	N.	10
	3	SE.	1	C. K.	5		3	NE.	1	N.	10		3	N.	1	N.	10
	6	S.	1	C. S.	2		6	E.	1	N.	10		6	N. NE.	1	N.	10
	9	SW.	1	C. K.	10		9	SE.	1	N.	10		9	N.	2	N.	10
Nov. 22	0	NW.	6	N.	10	Nov. 23	0	NW.	4	C. K.	7	Nov. 24	0	NW.	1	Clear	0
	3	NW.	5	K.	10		3	NW.	1	C. S.	2		3	NW.	1	Clear	0
	6	NW.	3	N.	10		6	W.	2	C. K.	2		6	NW.	1	C. K.	8
	9	NW.	3	C. K. S.	10		9	W. NW.	4	Clear	0		9	NE.	1	C. K.	10
	Noon	NW.	2	C. K.	10		Noon	NW.	4	C.	1		Noon	S.	1	C. K.	3
	3	NW.	2	K.	10		3	W. NW.	2	C.	1		3	S. SE.	1	Clear	0
	6	NW.	1	K.	10		6	W.	2	Clear	0		6	S.	1	Clear	0
	9	NW.	3	K.	10		9	NW.	1	Clear	0		9	W.	1	Clear	0
Nov. 25	0	NW.	1	Clear	0	Nov. 26	0	SE.	1	C.	2	Nov. 27	0	S.	1	C. K.	8
	3	NW.	1	Clear	0		3	SE.	1	Clear	0		3	SW.	1	Clear	0
	6	NW.	1	Clear	0		6	SE.	1	Clear	0		6	SW.	1	Clear	0
	9	NW.	1	Clear	0		9	S.	1	C. K.	10		9	S.	1	C.	1
	Noon	E. SE.	1	Hazy			Noon	S.	1	C. K.	10		Noon	SE.	1	C. S.	4
	3	SE.	1	C.	3		3	S.	1	K.	10		3	N.	1	C. S.	6
	6	S.	1	C. S.	2		6	SE.	1	K.	10		6	N.	1	S.	1
	9	S. SW.	1	C.	2		9	SE.	1	N.	10		9	N.	1	Clear	0

REMARKS.

November 13. Snowing at 3h. 10m. p. m.
15. Commenced raining at 8h. 10m. a. m., and soon changed to hail. Slight shower. Wind SE.
17. Light showers of rain at intervals during the day.
18. Commenced raining at 0h. 15m. a. m. Amount, 0.445 inch.
19. Light rain during the morning till 10h. a. m. Amount, 0.055 inch.
20. Commenced raining at 2h. 30m. a. m. Amount, 0.550 inch.
22. Rain and snow at midnight. Snowing lightly at intervals during the day.
23. Several meteors during the early part of the night.
25. Several meteors after midnight.
26. Commenced raining at 6h. 40m. p. m. Amount, 0.100 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. Nov. 28	0	NW.	1	C. K.	5	1864. Nov. 29	0	SE.	1	Hazy		1864. Nov. 30	0	SW.	1	C.	4
	3	E.	1	C. K.	10		3	S. SE.	1	C. K.	4		3	SE.	1	C. K.	4
	6	NE.	1	K.	10		6	S.	1	C. K.	10		6	E.	1	K.	10
	9	E.	1	K.	10		9	S. SE.	1	C. K.	8		9	S. SW.	1	C. K.	9
	Noon	S.	1	C. K.	10		Noon	SW.	1	C. K.	7		Noon	NW.	3	C. K.	[illegible]
	3	S. SW.	1	C. K.	10		3	SW.	1	S.	2		3	NW.	3	C. K.	7
	6	SE.	1	K.	10		6	S. SW.	1	S.	1		6	W. NW.	1	S.	1
	9	SE.	1	K.	10		9	SW.	1	C. S.	2		9	W.	2	C.	2
Dec. 1	0	S.	1	C.	1	Dec. 2	0	SW.	1	Hazy		Dec. 3	0	S. SE.	1	K.	10
	3	SW.	1	S.	2		3	SE.	1	C. K.	6		3	SE.	1	K.	10
	6	SW.	1	C. K. S.	4		6	NE.	1	K.	10		6	S.	1	K.	10
	9	SW.	1	C.	4		9	NE.	1	C. K.	10		9	S.	1	K.	10
	Noon	W.	1	C.	6		Noon	S.	1	C. K.	10		Noon	S.	1	C. K.	[illegible]
	3	W.	1	C.	8		3	S. SE.	1	N.	10		3	S. SW.	2	K. S.	9
	6	S.	1	C. S.	3		6	E.	1	N.	10		6	W. NW.	1	K.	10
	9	SW.	1	C. K.	10		9	E.	1	K.	10		9	NW.	3	C. S.	2
Dec. 4	0	NW.	1	C. S.	2	Dec. 5	0	NW.	1	Clear	0	Dec. 6	0	W.	1	C.	4
	3	W.	1	C.	1		3	N. NE.	1	Clear	0		3	W.	1	C. K.	8
	6	W.	2	C. K.	4		6	NE.	1	S.	1		6	W. NW.	1	K.	10
	9	W. NW.	2	C. K.	7		9	E.	1	C. S.	6		9	E.	1	K.	10
	Noon.	W. NW.	2	C. K.	4		Noon	E. NE.	1	C.	4		Noon	S.	1	C. K.	10
	3	NW.	1	Clear	0		3	SE.	1	C. K.	10		3	S. SE.	1	C. K.	6
	6	NW.	1	Clear	0		6	NE.	1	K.	10		6	NE.	1	Clear	0
	9	NW.	1	Clear	0		9	E.	1	C. K.	7		9	NE.	1	C. S.	3
Dec. 7	0	N.	1	C. K.	6	Dec. 8	0	NW.	2	C. K.	8	Dec. 9	0	NW.	4	C. K.	10
	3	NE.	1	Fog			3	NW.	4	S.	2		3	NW.	3	C. K.	10
	6	SE.	1	K.	10		6	NW.	3	C. S.	4		6	N.	1	C. S.	4
	9	NE.	1	K.	10		9	NW.	2	C. K.	10		9	N.	1	C. S.	6
	Noon	S.	1	N.	10		Noon	NW.	2	C. K. S.	9		Noon	N.	1	C. S.	6
	3	S.	2	N.	10		3	W.	2	C. K. S.	9		3	NE.	1	K.	10
	6	S. SW.	1	Clear	0		6	NW.	2	C. K. S.	7		6	NE.	1	K.	10
	9	S. SW.	1	C. S.	2		9	NW.	3	C. S.	6		9	NE.	2	N.	10
Dec. 10	0	NE.	1	N.	10	Dec. 11	0	N.	1	C. K.	10	Dec. 12	0	W. NW.	3	Clear	0
	3	NE.	1	N.	10		3	NW.	1	K.	10		3	W.	2	C.	1
	6	N.	1	K.	10		6	NW.	1	Mist	10		6	W.	2	Clear	0
	9	NW.	2	Mist	10		9	NW.	1	Mist	10		9	W. SW.	3	C. K.	1
	Noon	N. NW.	1	Mist	10		Noon	NW.	1	K.	10		Noon	W. NW.	4	C.	1
	3	NW.	1	K.	10		3	W.	1	K.	10		3	W. NW.	3	C. K.	1
	6	NW.	1	K.	10		6	NW.	4	K.	10		6	NW.	2	Clear	0
	9	N.	1	K.	10		9	NW.	4	C. K.	3		9	NW.	1	Clear	0

REMARKS.

December 2. Commenced raining at 2h. 25m. p. m.
7. A light shower at 7h. 50m. a. m. Amount, 0. 080 inch.
9. Commenced snowing at 7h. 35m. p. m. Depth, 3. 5 inches.
11. Snowing lightly at 5h. p. m.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864. Dec. 13	0	SW.	1	C. S.	4	1864. Dec. 14	0	S. SW.	4	K.	10	1864. Dec. 15	0	N. NW.	1	C.	2
	3	N.	1	C. K.	10		3	S.	2	N.	10		3	N. NW.	1	C.	3
	6	N.	1	K.	10		6	S.	1	K.	10		6	N.	1	C. K.	10
	9	S.	1	K.	10		9	S. SW.	1	C. K.	9		9	NE.	1	K.	10
	Noon	S.	1	C. K.	8		Noon	S.	1	C. K.	8		Noon	SE.	1	K.	10
	3	S.	1	K.	10		3	SW.	1	C. K.	4		3	E. NE.	1	N.	10
	6	S.	1	K.	10		6	NW.	1	Clear	0		6	E.	1	K.	10
	9	SW.	2	K.	10		9	NW.	1	Clear	0		9	E. SE.	1	K.	10
Dec. 16	0	NE.	1	C. K.	9	Dec. 17	0	N. NE.	1	Mist	10	Dec. 18	0	NW.	1	C. K.	9
	3	NE.	1	C. K.	6		3	N.	1	Fog	10		3	NW.	1	C. K.	6
	6	NE.	1	K.	10		6	N.	1	Fog	10		6	NW.	1	C. S.	4
	9	N.	1	K.	10		9	N.	1	Fog	10		9	NW.	1	C. K.	10
	Noon	N.	1	C. K.	10		Noon	N.	1	Fog	10		Noon	NE.	1	K.	10
	3	N. NE.	1	K.	10		3	NW.	1	N.	10		3	NE.	1	K.	10
	6	NE.	1	K.	10		6	NW.	1	C. S.	9		6	NE.	1	K.	10
	9	NE.	1	Mist	10		9	NW.	1	C.	4		9	E.	1	K.	10
Dec. 19	0	E. SE.	1	K.	10	Dec. 20	0	NW.	2	C. K.	7	Dec. 21	0	NE.	1	K.	10
	3	SE.	1	K.	10		3	NW.	4	C. S.	4		3	E.	1	K.	10
	6		1	N.	10		6	NW.	2	S.	2		6	NE.	2	N.	10
	9	S.	1	N.	10		9	NW.	2	C. K. S.	9		9	NE.	1	N.	10
	Noon	S.	1	N.	10		Noon	NW.	2	C. K. S.	9		Noon	NE.	1	N.	10
	3	S.	1	K.	10		3	NW.	2	C. K.	6		3	NW.	1	K.	10
	6	NW.	1	K.	10		6	NW.	1	S.	2		6	SW.	1	K.	10
	9	NW.	3	K.	10		9	NW.	1	C.	4		9	NW.	3	C. K.	2
Dec. 22	0	NW.	2	C. K.	2	Dec. 23	0	NW.	1	Clear	0	Dec. 24	0	SW.	1	C. K.	3
	3	NW.	4	K.	9		3	NW.	1	C.	2		3	W.	1	C. S.	4
	6	NW.	5	K.	10		6	NW.	1	C.	1		6	W.	1	C. K.	8
	9	NW.	4	C. K. S.	8		9	NW.	1	Clear	0		9	SW.	1	C. K.	9
	Noon	NW.	5	C. K.	8		Noon						Noon	NW.	1	C. K.	9
	3	NW.	3	C. K.	2		3	W.	1	C. K.	4		3	NW.	2	C. K.	2
	6	NW.	3	S.	1		6	W.	1	Clear	0		6	W.	1	Clear	0
	9	NW.	3	C.	2		9	NW.	1	C. K.	2		9	NW.	1	Clear	0
Dec. 25	0	NE.	1	Clear	0	Dec. 26	0	E.	1	K.	10	Dec. 27	0	NW.	1	Mist	10
	3	E.	1	Clear	0		3	SE.	1	N.	10		3	NW.	1	Fog	10
	6	NW.	1	C. S.	1		6	S.	1	N.	10		6	NW.	1	Fog	10
	9	N.	1	C. S.	3		9	N.	1	Mist	10		9	SW.	1	Fog	10
	Noon	SE.	1	C.	8		Noon	N.	1	Mist	10		Noon	SE.	1	Fog	10
	3	S.	1	C. S.	3		3	N. NW.	1	C. K.	10		3	SE.	1	Fog	10
	6	SE.	1	K.	10		6	NW.	1	K.	10		6	S.	1	K.	10
	9	E.	1	K.	10		9	NW.	1	K.	10		9	S.	1	C. K.	1

REMARKS.

December 14. Commenced hailing at 0h. 25m. a. m.; changed to rain and sleet at 0h. 45m. a. m. Amount of rain and melted snow gauged since December 8, 0.750 inch.
15. Commenced snowing at 2h. 45m. p. m.
16. Raining lightly at 7h. 30m. p. m.
17. Amount of rain, 0.030 inch.
19. Commenced raining at 4h. a. m. Amount, 0.140 inch.
21. Commenced snowing at 3h. 30m. a. m. Depth, 2.5 inches.
26. Commenced raining at 0h. 5m. a. m. Amount of rain and melted snow gauged since December 20, 1.070 inch.

Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.	Day.	Hour.	WIND.		Weather.	Portion cloudy.
		Direction.	Force.					Direction.	Force.					Direction.	Force.		
1864.						1864.						1864.					
Dec. 28	0	SE.	1	K.	10	Dec. 29	0	NW.	2	N.	10	Dec. 30	0	NW.	1	Hazy	
	3	E.	1	N.	10		3	NW.	3	N.	10		3	SW.	1	K.	10
	6	W.	1	N.	10		6	NW.	3	K.	10		6	SW.	1	S.	3
	9	W. NW.	1	Fog	10		9	N. NW.	2	K. S.	10		9	S. SW.	2	C. S.	3
	Noon	NW.	1	C. K.	4		Noon	NW.	2	C. K.	9		Noon	S.	2	C. K.	9
	3	W.	1	C. K.	10		3	NW.	2	C. K. S.	10		3	S.	2	C. K.	4
	6	NE.	1	K.	10		6	NW.	3	K. S.	2		6	S. SW.	2	K.	10
	9	NW.	1	N.	10		9	NW.	2	S.	1		9	S.	1	K.	10
Dec. 31	0	SW.	1	K.	10												
	3	W.	1	N.	10												
	6	NW.	1	N.	10												
	9	NW.	1	N.	10												
	Noon	NW.	1	N.	10												
	3	NW.	2	N.	10												
	6	NW.	1	K. S.	9												
	9	NW.	3	C. S.	3												

REMARKS.

December 28. Rain from 1h. a. m. to 6h. 30m. a. m.; also at 6h. 15m. p. m. Amount, 0.850 inch.
30. Snowing lightly at 1h. a. m.
31. Commenced snowing at 0h. 20m. a. m., and ceased at 5h. p. m.

METEOROLOGICAL OBSERVATIONS.

MEAN MONTHLY AND ANNUAL RESULTS.

1864.

TABLE I.

Monthly means of barometric pressure.

Date.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	in.	in.	in.	in.	in.	in.	in.	in.
January	30.009	30.014	30.003	30.035	30.006	29.988	30.018	30.038
February	29.910	29.899	29.902	29.921	29.894	29.850	29.886	29.912
March	29.834	29.832	29.850	29.868	29.832	29.780	29.787	29.816
April	29.856	29.849	29.864	29.911	29.855	29.819	29.827	29.862
May	29.770	29.774	29.793	29.801	29.780	29.767	29.761	29.805
June	29.947	29.951	29.971	29.979	29.972	29.928	29.921	29.945
July	29.933	29.933	29.952	29.962	29.945	29.909	29.900	29.938
August	29.856	29.851	29.872	29.890	29.871	29.834	29.830	29.862
September	29.933	29.927	29.947	29.967	29.943	29.909	29.912	29.937
October	29.898	29.868	29.874	29.899	29.867	29.835	29.849	29.870
November	29.994	29.989	29.996	30.022	29.987	29.965	29.989	29.999
December	29.915	29.921	29.922	29.950	29.891	29.888	29.909	29.919
Ann'l means	29.905	29.901	29.912	29.934	29.904	29.873	29.882	29.909

TABLE II.

Monthly means of dry thermometer.

Date.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
January	29.69	28.45	27.80	30.11	39.33	41.81	36.28	32.38
February	32.77	30.81	29.67	34.07	41.39	44.21	38.32	34.99
March	36.09	34.35	33.13	38.42	44.47	46.15	43.31	38.97
April	45.90	43.79	42.99	50.93	55.62	57.28	54.61	49.33
May	60.46	58.12	57.79	66.82	73.21	75.58	70.43	64.20
June	64.40	61.41	61.50	71.67	78.55	80.54	76.54	68.04
July	70.32	68.03	67.12	76.98	85.93	87.62	83.66	74.74
August	72.88	71.09	70.29	77.10	84.13	85.93	80.39	74.41
September	61.54	59.91	58.98	61.80	72.03	74.00	67.35	63.32
October	50.17	47.99	46.56	53.00	61.98	62.50	55.65	52.14
November	41.25	40.27	39.78	43.17	50.19	50.65	45.73	43.07
December	33.62	32.59	31.64	33.65	38.67	39.42	37.15	34.24
Ann'l means	49.93	48.07	47.27	53.14	60.46	62.14	57.45	52.49

TABLE III.

Monthly means of wet thermometer.

Date.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
January	28.37	27.24	26.97	28.73	35.56	36.86	32.36	30.19
February	33.16	31.27	31.67	34.15	39.57	41.33	37.04	34.69
March	34.84	32.89	31.96	35.97	39.76	40.77	38.82	36.40
April	43.36	42.05	41.36	46.82	49.63	50.67	48.58	45.89
May	58.61	56.83	57.05	62.94	67.10	68.61	65.67	61.56
June	61.79	59.50	59.20	66.11	69.36	70.40	68.42	64.27
July	66.19	65.00	64.35	69.07	72.95	72.91	71.86	68.24
August	70.18	69.13	68.41	71.51	74.45	74.46	73.46	71.97
September	59.39	58.41	57.87	60.89	64.04	65.48	62.68	60.47
October	48.05	45.84	44.81	49.20	53.93	53.76	51.03	49.16
November	40.71	40.06	39.92	42.04	45.51	46.26	43.07	41.81
December	33.44	32.30	31.71	33.70	37.07	37.32	36.06	33.98
Ann'l means	48.17	47.54	46.27	50.09	54.08	54.90	52.42	49.89

TABLE IV.

Monthly means of sun thermometer.

Date.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.	°	°	°	°	°	°	°	°
January	31.79	28.06	27.05	46.09	70.66	73.97	65.21	36.29
February	31.03	29.60	27.37	54.67	72.68	79.21	73.03	37.38
March	36.23	33.19	31.26	63.45	78.60	82.27	70.95	43.36
April	45.43	42.36	41.50	80.10	95.52	95.03	83.56	54.54
May	59.78	56.33	58.22	95.02	115.24	119.71	110.51	70.45
June	63.17	58.77	61.77	108.39	121.71	123.56	113.90	80.68
July	66.40	63.10	66.64	107.64	125.32	118.18	97.36	72.53
August	69.21	67.52	68.78	101.73	120.80	114.93	84.62	70.86
September	57.12	56.23	59.33	88.80	105.64	101.53	63.62	60.02
October	45.68	43.45	42.61	76.97	97.95	81.38	49.85	44.20
November	38.27	37.46	37.26	57.26	75.92	64.71	42.03	38.93
December	31.18	30.24	29.79	41.40	58.13	47.95	34.71	32.27
Ann'l means	47.94	45.53	45.97	76.79	94.85	91.87	74.11	53.46

TABLE V.

Showing the amount of rain that fell during the year 1864.

Month.	Inches.
January	2.174
February	0.289
March	4.720
April	7.036
May	4.010
June	0.799
July	1.354
August	3.374
September	2.450
October	1.284
November	3.216
December	3.308
Annual amount	34.014

TABLE VI.

Showing the number of times that the wind blew from the north at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	2	4	1	2	1	2	0	3
February . . .	2	3	2	1	0	2	2	1
March	8	10	7	5	6	1	6	3
April	1	1	4	4	4	4	4	5
May	5	1	3	4	2	0	3	3
June	5	7	7	6	4	4	5	4
July	4	7	9	1	4	3	2	3
August . . .	2	5	5	4	2	4	5	2
September . . .	2	2	4	4	1	3	3	3
October	5	1	4	3	1	3	5	2
November . . .	2	2	1	3	2	3	4	5
December . . .	4	3	5	5	4	2	0	1
	42	46	52	42	31	31	39	35

Showing the number of times the wind blew from the northeast at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January . . .	6	8	8	4	6	4	4	6
February . . .	2	3	2	0	1	0	2	1
March . . .	2	2	5	3	4	5	4	5
April	3	4	5	1	0	2	4	3
May	3	3	3	1	3	2	0	2
June . . .	1	2	3	4	2	2	4	3
July	4	1	4	6	5	3	4	2
August . . .	6	4	4	4	1	2	1	6
September . . .	1	2	1	1	2	2	2	2
October . . .	1	3	3	1	2	2	2	3
November . . .	3	0	1	3	1	2	1	2
December . . .	4	3	4	4	2	2	6	3
	36	35	43	32	29	28	34	38

Showing the number of times the wind blew from the east at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	5	2	1	4	0	1	5	2
February . . .	1	2	2	3	2	0	0	2
March	0	1	1	2	1	3	3	2
April	3	1	1	3	3	2	1	0
May	0	2	2	5	4	5	5	0
June	3	2	0	4	4	6	7	4
July	1	1	0	0	2	5	6	4
August	2	1	0	2	2	3	5	2
September . . .	1	0	2	0	1	2	4	1
October	2	2	2	3	3	1	2	1
November . . .	0	3	2	2	1	0	2	0
December . . .	1	3	0	2	1	1	2	5
	19	20	13	30	24	29	42	23

Showing the number of times the wind blew from the southeast at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January . . .	2	3	7	6	6	3	3	2
February . . .	3	2	2	3	3	5	5	4
March	3	0	0	0	1	1	2	3
April	3	2	1	3	1	3	2	5
May	4	1	1	7	3	4	2	3
June	2	1	0	2	3	2	2	1
July	2	0	1	5	4	5	2	5
August . . .	1	0	0	0	2	2	3	3
September . . .	2	4	1	3	5	3	2	2
October . . .	2	1	1	1	1	0	1	1
November . . .	3	3	4	1	1	3	5	8
December . . .	1	4	1	0	3	2	1	0
	28	21	19	31	33	33	30	37

Showing the number of times the wind blew from the south at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	1	2	1	5	8	7	4	1
February . . .	10	5	2	9	8	9	8	7
March	3	3	4	6	5	5	3	2
April	4	2	3	4	7	5	4	3
May	3	2	3	5	6	7	7	4
June	2	2	6	3	6	6	3	5
July	2	3	3	6	4	3	5	4
August	2	2	6	7	6	9	7	2
September . . .	7	4	6	8	7	10	10	8
October	3	2	1	4	4	4	7	5
November . . .	5	5	6	10	14	9	7	2
December . . .	4	1	3	5	8	8	5	3
	46	33	44	72	83	82	70	46

Showing the number of times the wind blew from the southwest at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January . . .	3	2	0	0	0	1	6	4
February . . .	1	3	4	3	1	0	2	3
March	0	0	2	1	2	2	1	1
April	1	4	1	3	0	0	3	1
May	5	6	4	1	2	3	5	9
June	2	2	2	3	4	4	3	2
July	5	6	4	3	4	4	8	5
August . . .	4	2	2	3	4	3	4	5
September . . .	2	2	2	5	3	3	1	3
October . . .	0	1	1	3	2	1	0	0
November . . .	2	3	3	0	2	2	1	3
December . . .	3	2	2	3	0	1	1	2
	28	33	27	28	24	24	35	38

TABLE VI—Continued.

Showing the number of times the wind blew from the west at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1861.								
January	4	2	4	3	6	4	5	7
February	2	3	5	2	6	5	3	4
March	5	1	1	3	1	2	2	6
April	3	4	7	4	5	5	5	4
May	6	7	4	4	5	3	2	3
June	5	5	4	3	2	1	3	7
July	3	2	4	3	6	4	3	3
August	4	6	6	3	7	5	3	5
September	2	4	5	1	1	2	5	4
October	8	8	10	6	11	10	7	6
November	5	3	5	3	1	2	4	3
December	2	5	5	3	4	6	2	0
	49	50	60	38	55	49	44	52

Showing the number of times the wind blew from the northwest at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	9	9	10	8	5	7	7	7
February	9	7	9	8	8	7	7	7
March	10	14	11	11	8	13	10	10
April	13	11	7	8	9	7	7	8
May	4	8	8	3	5	5	5	5
June	10	9	9	6	5	5	4	4
July	8	11	6	7	2	4	1	4
August	11	11	9	7	5	3	4	6
September	13	11	8	8	9	6	4	5
October	10	13	10	10	8	9	7	13
November	10	12	7	8	9	8	6	7
December	12	10	10	9	8	9	14	16
	119	126	104	93	81	83	76	92

Showing the number of times it was calm at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	0	0	0	0	0	1	0	0
February	0	0	0	0	0	0	0	0
March	0	0	0	0	1	0	1	0
April	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0
July	2	0	0	0	0	0	0	1
August	0	0	0	0	0	0	0	1
September	0	1	0	0	0	0	0	0
October	0	0	0	0	1	0	0	0
November	0	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0	0
	2	1	0	0	2	1	1	2

TABLE VII.

Showing the number of times it was clear at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	8	8	6	4	4	6	5	8
February	11	8	8	3	4	2	4	13
March	6	7	6	3	4	4	6	9
April	6	4	2	2	1	0	1	7
May	5	4	2	1	1	1	3	5
June	9	5	6	1	0	0	2	6
July	7	8	4	1	0	0	0	5
August	0	4	1	0	0	0	0	3
September	9	8	7	3	1	3	2	8
October	7	10	9	7	4	0	5	8
November	3	6	6	3	0	2	5	7
December	3	2	1	0	0	1	5	4
	74	74	58	28	19	19	38	83

Showing the number of times that cirrus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1861.								
January	5	2	4	4	3	4	2	2
February	2	3	4	3	2	4	2	1
March	6	1	0	2	7	3	1	3
April	2	4	2	5	6	2	2	1
May	5	4	3	6	6	8	4	5
June	6	10	4	8	7	5	6	9
July	6	6	4	9	6	4	9	11
August	5	3	3	6	5	2	5	5
September	3	4	0	4	5	6	6	3
October	1	1	2	3	5	10	2	6
November	2	1	0	2	4	5	0	2
December	3	4	0	1	3	1	0	3
	46	43	26	53	59	54	39	51

TABLE VII—Continued.

Showing the number of times that cirro-cumulus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	1	5	2	9	8	9	4	2
February	5	6	0	6	12	14	10	4
March	1	3	0	7	8	12	6	5
April	7	3	7	13	14	16	8	4
May	11	6	11	13	16	15	11	6
June	8	7	10	10	17	19	14	9
July	11	7	15	12	18	17	16	5
August	14	9	14	10	16	17	15	9
September	5	6	11	12	15	16	8	8
October	7	7	4	13	16	11	3	8
November	10	9	5	6	13	8	3	6
December	9	7	3	6	13	9	0	5
	89	75	82	117	166	163	98	71

Showing the number of times that cirro-stratus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	2	4	3	1	2	1	12	5
February	2	4	2	3	0	2	4	0
March	0	3	6	2	1	0	4	1
April	0	2	3	2	0	0	5	2
May	0	2	0	0	0	0	0	0
June	1	1	3	0	2	1	1	1
July	3	0	1	1	0	0	0	4
August	0	4	4	1	1	0	0	3
September	0	1	2	0	2	0	3	3
October	3	2	5	2	1	2	7	1
November	1	1	0	2	2	2	5	2
December	2	2	4	4	2	2	0	4
	14	26	33	18	13	10	41	26

Showing the number of times that cumulus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	5	5	8	4	1	3	4	5
February	5	4	9	5	6	3	4	7
March	10	10	9	5	5	3	2	7
April	6	7	3	2	1	1	3	8
May	4	8	5	4	2	1	4	7
June	1	1	3	1	0	1	1	3
July	3	4	0	0	1	1	2	1
August	6	7	3	6	4	4	5	7
September	10	5	4	6	3	3	5	7
October	8	6	3	1	3	5	5	5
November	7	6	9	5	4	4	4	6
December	8	7	10	5	2	9	18	8
	73	70	66	44	32	38	57	71

Showing the number of times that cumulo-stratus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	0	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0	0
March	0	0	1	1	1	1	2	0
April	0	0	5	1	2	1	3	0
May	0	0	0	1	0	0	0	0
June	0	0	0	0	0	0	0	0
July	0	0	1	1	0	0	0	0
August	0	0	1	0	0	1	0	0
September	0	0	1	0	0	0	3	0
October	0	0	0	0	0	0	3	0
November	0	0	1	2	0	1	2	0
December	0	0	0	3	2	2	4	1
	0	0	10	9	5	6	17	1

Showing the number of times that stratus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	2	0	1	2	2	2	1	1
February	1	3	5	4	0	1	4	1
March	1	1	3	1	0	0	3	1
April	1	1	1	1	0	0	0	1
May	1	1	0	0	0	0	0	1
June	2	0	0	1	0	0	0	0
July	0	1	0	1	0	0	0	1
August	3	1	1	1	0	0	0	2
September	0	1	0	1	0	0	1	0
October	2	0	2	1	0	0	5	0
November	0	0	2	1	1	1	5	2
December	0	2	4	0	0	0	2	1
	13	11	19	14	3	4	21	11

Showing the number of times that nimbus clouds prevailed at the hours of observation.

Time.	0h.	3h.	6h.	9h.	Noon.	3h.	6h.	9h.
1864.								
January	6	5	4	3	3	2	2	4
February	1	1	1	1	2	1	1	1
March	6	5	6	6	5	5	6	6
April	6	7	4	4	6	6	6	6
May	2	2	3	2	3	3	3	2
June	0	2	0	0	1	1	1	0
July	0	1	2	1	0	1	0	1
August	0	0	2	2	3	3	3	0
September	3	5	3	2	2	3	2	1
October	2	3	2	2	1	2	2	2
November	4	5	7	7	6	6	6	4
December	2	6	5	3	3	2	1	2
	32	42	39	33	35	35	33	29

LIST

OF

PUBLICATIONS PRESENTED TO THE LIBRARY

DURING

THE YEAR 1864.

LIST OF PUBLICATIONS PRESENTED TO THE LIBRARY DURING THE YEAR 1864.

Date.	Publications.	From whom received.
Jan. 19	Boston Harbor, a series of communications to the Boston Daily Advertiser, by Benj. A. Gould	Hon. F. W. Lincoln, jr.
20	Allgemeine Bibliographie. 1863. No. 7	F. A. Brockhaus.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1863. X	J. Perthes.
	Astronomische Beobachtungen auf der Sternwarte zu Bonn. Band V	Dr. F. W. A. Argelander.
	Jahresbericht am 14 Juin, 1863, dem Comite der Nicolai-Hauptsternwarte abgestattet vom Director der Sternwarte	The Director.
23	Shooting Stars of November, 1863	Prof. H. A. Newton.
	Report of the Secretary of the Navy, with appendix. 1863	Wm. Faxon, esq.
27	Report of the Chief of the Bureau of Ordnance, Navy Department. 1863	Bureau Ordnance.
28	Abstracts of Magnetical Observations made at the Magnetical Observatory, Toronto, C. W. 1856–1862 inclusive, and parts of 1853, 1854, 1855	University of Toronto.
	Meteorological Observations at Toronto Observatory, April, 1856, to June, 1863	Same.
30	Nova Acta Regiæ Societatis Scientiarum Upsaliensis. Seriei Tertiæ. Vol. IV. Fasc. II. 1863.	Societe Royale des Sciences à Upsal.
	Meteorologiska Jakttagelser i Sverige. Band 2, 3	L'Academie Royal Suedoise des Sciences.
	Eugenies Resa: Fysik. Band 1. (In Swedish and French.)	Same.
Feb. 3	Annales Hydrographiques. 3d Trimestre de 1863	Depot des Cartes et Plans de la Marine.
12	Memoirs of the Royal Astronomical Society. Vol XXXI	Royal Astronomical Society.
	Astronomical, Magnetic, and Meteorological Observations made at the Royal Observatory, Greenwich, in 1861	Royal Observatory, Greenwich.
22	Schriften der Natuforschenden Gesellschaft in Danzig. Neue Folge, 1st Band, 1st Heft.	Natuforschenden Gesellschaft in Dansig.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. Petermann. XI. 1863	Justus Perthes.
	Jagttagelser over Kometen. 1862 .II	H. Mohn. Christiania.
	Om Astronomiske og geodetiske Observationer	Kongelige Norse Universitet.
	Atlas des Nordlichen Gestirnten Himmels. 1855	F. W. A. Argelander.
	Notice to Mariners. Nos. 1 to 7, inclusive	Admiralty, London.
March 1	Anuario del Real Observatorio de Madrid. 1864	Real Observatorio de Madrid.
4	Abstract of Meteorological Observations made at Milwaukie, Wis. by J. A. Lapham, LL. D.	J. A. Lapham.
	Bulletin de la Societe Imperiale des Naturalistes de Moscow. 1863. Nos. 1 and 2	Soc. Imp. des Naturalistes, Moscow.
	Sitzungsberichte der Konigl.-bayer Akademie der Wissenschaften zu Munchen. 1862 and 1863	Konigl.-bayer. Akademie der Wissenschaften.
16	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1863. XII	Justus Perthes.
	Astronomical and Meteorological Observations, Radcliffe Observatory, Oxford, for 1861	The Radcliffe Trustees.
21	Annals of the Astronomical Observatory of Harvard College. Vol. I, Pt. II. Vol. II, Pt. I.	The Astronomical Observatory, Harvard College.
24	Annuaire de la Societe Meteorologique de France. Tome 9. 1861. Premiere partie. F. 1–10.	La Société Meteorologique.
	Annalen der K. Sternwarte bei Munchen. IV. Supplement Band	Royal Observatory, Munich.
	Erdmagnetismus	Same.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1856. VI, VII, X, XI, XII. 1860. I to XII. 1861. I, II. Erganzungsheft. Reise von Trapezunt nach Skutari, von Dr. H. Barth. Reise durch die Andes, von J. J. v. Tschudi. Kusten und Meer Norwegens. Von A. Vibe	Justus Perthes.
April 13	Report of the Commissioner of Agriculture for the year 1862	Department of Agriculture.
21	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1864. I	Justus Perthes.
May 4	Notices to Mariners. Nos. 8 to 12	The British Admiralty.
16	Proceedings of the American Academy of Arts and Sciences. Vol. VI, pages 97–236	American Academy of Arts and Sciences.
20	Monthly Meteorological Register, Provincial Magnetic Observatory, Toronto, C. W. October, 1863, to January, 1864	Provincial Magnetic Observatory, Toronto.
21	Memoire sur l'expression du rapport qui existe en vertu de la chaleur d'origine entre le refroidissement de la masse totale du globe terrestre et le refroidissement de sa surface. Jean Plana	Baron J. Plana.
24	Annuaire de la Societé Meteorologique de France. Tome VIII. Pt. 1st. F. 16–21. Tome XI. Pt. 2. F. 7–18	La Societe Meteorologique.
	Die Sonne und ihre Flecken. Dr. R. Wolf	Dr. R. Wolf.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1864. II. Erganzungsheft. No. 12	Justus Perthes.
26	Uitkomsten van wetenschap en ervaring aangaande winden en zeestroomingen in sommige gedeelten van den ocean, uitgegeven door het Koninklijk Nederlandsch Meteorologisch Instituut te Utrecht, in 1863. Atlas to the same. 6 copies each	Koninklijk Nederlandsch Meteorolog. Instituut.
June 2	Sur une Méthode Nouvelle proposée par M. De Littrow pour determiner en mer l'heure et longitude par H. Faye	M. de Littrow.
	Report of the Committee of Overseers of Harvard College, appointed to visit the Observatory in 1863, and Report of Director.	Prof. G. P. Bond.
10	Report of the Astronomer in charge of the Dudley Observatory for the year 1863	The Dudley Observatory.
	Sea Chart: Goeree in R. Maas, with Pamphlet and Description, &c. Hacingvliet Krammer, Volkzak & Hollancloch Diep. (R. Maas)	The Dutch Government.
	Topographical Map of the Department of Twenthe, in the Province of Overyssel, Holland, with its surroundings	Same.
16	Proceedings of the Royal Society of England. 71 Nos	The Royal Society of London.
	Journal of the Royal Geographical Society. Vol. 32	Royal Geographical Society.
	A General Catalogue of the principal fixed Stars from Observations made at the Hon. E. I. Company's Observatory, Madras. 1830–1843. T. G. Taylor	The Madras Government.
	Astronomical Observations at Hon. E. I. Company's Observatory at Madras, in 1843–1847, and 1848–1852	Same.
	Annual Report of the Trustees of the Museum of Comparative Zoology, together with Report of Director. Boston. 1863.	Prof. L. Agassiz.

Date.	Publications.	From whom received.
June 16	Annalen der K. K. Sternwarte in Wien. 3 Folge. 12 Band. 1862	K. K. Sternwarte in Wien.
	Meteorologische Beobachtungen an der Wiener Sternwarte von 1775 bis 1858. Vierter Band. 1823–'38	Same.
25	Smithsonian Miscellaneous Collections. Vol. 5	The Smithsonian Institution.
	Smithsonian Contributions to Knowledge. Vol. XIII	Same.
	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1864. III and IV	Justus Perthes.
	Bulletino Meteorolog. dell'Observatorio del Collegio Romano. Vol. I. 1861. Vol. II. 1862	The Roman College.
	Memoire dell'Observatorio del Collegio Romano, D. C. D. S. Nuova Serie. Vol. II. 1860–'63	Same.
July 1	Report of the Astronomer Royal to the Board of Visitors of the Royal Observatory, Greenwich. 1864	G. B. Airy, Astronomer Royal.
18	Observations of Spots on the Sun from November 9, 1853, to March 24, 1861. Made at Red Hill. R. C. Carrington	Royal Society of London.
	Philosophical Transactions of the Royal Society of London for the year 1863. Vol. 153, Part II	The Royal Society.
	Mittheilungen der K. K. Geographischen Gesselschaft VI. Jahrgang. 1862	The Imperial Geographical Society, Vienna.
22	Rapport à S. E. le ministre de la Marine sur une mission accomplie en Angleterre pour etudier les questions relatives à la regulation des compass, par M. Darondeau, Ingenieur Hydrographe de 1ere classe	Capt. M. Devarenne.
28	Notices to Mariners. Nos. 31 and 32	Hydrographic Office, London.
August 8	Monthly Meteorological Register at the Provincial Magnetical Observatory, Toronto, C. W. 1864. February to May, 1863. September, 2 copies	Provincial Magnetic Observatory, Toronto.
10	Verhaltniss der Atmospharischen luft zu dem in derselben befindlichen Wasserdampffe	Dr. Lamont.
12	Notices to Mariners. Nos. 33 to 35	Hydrographic Office, London.
26	Notices to Mariners. No. 36	Same.
	Observatorio Magnetico y Meteorologico del Real Collegio de Belen de la Compania de Jesus en la Habana, Resumen de las observaciones del Mes de Abril, 1864	Real Collegio de Belen.
	Observatorio Magnetico y Meteorologico del Real Collegio de Belen de la Compania de Jesus en la Habana, Resumen de las observaciones del Mes de May, 1864	Same.
Sept. 4	Notices to Mariners. Nos. 37–39	Hydrographic Office, London.
14	On the Direction of the Wind at Manchester during the years 1849–1861, at 8 a. m. G. V. Vernon	G. V. Vernon, esq.
	On the number of days on which rain falls annually at London, from observations during the year 1862. G. V. Vernon	G. V. Vernon, esq.
	On the rain-fall at Oldham during the years 1836–'62, by John Heap, esq., with remarks by G. V. Vernon, Esq	G. V. Vernon, esq.
23	Notices to Mariners. Nos. 40–43	
26	Ephemerides Astronomicas calculadas para o Meridiano do Observatorio da Universidade de Coimbra para o anno 1865	Observatory of the University of Coimbra
Oct. 11	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1864. V, VI. Erganzungsheft. No. 13	Justus Perthes.
	Natuurkundige Verhandelingen van de Hollandsche Maatschappij der Wetenschappen te Haarlem. Tweede Verzameling. XVIII. Deel	Dutch Society of Sciences, Haarlem.
	Memorias de la Real Academia de Ciencias de Madrid en el año Academico de 1861–1862.	Royal Academy of Sciences, Madrid.
	Resumen de las Actas de la Real Academia de Ciencias de Madrid en el año Academico de 1861–1862	Same.
	Sitzungsberichte der k. Akademie der Wissenchaften. Math.-natur. 1863. I Abtheil. Nos. 45, 6, 7, 8, 9, 10. 1863. II Abtheil. Nos. 5, 6, 7, 8, 9. 1864. I Abtheil. No. 1. II Abthiel. No. 1	The Royal Academy of Sciences, Vienna.
	Denskchriften der k. Ak. der Wissenchaften. Mathm.-natuur. Classe, XIII. Band	Same.
	Libros del Saber de Astronomia del Rey D. Alfonso X de Castilla. Tome I, II	The Royal Academy of Sciences, Madrid.
	Ubersichten der Witterung in Osterreich und Einigen Auswartigen Stationen. 1856–'62. 7 vols.	The Meteorological Institute, Vienna.
	Annalen der koniglichen Sternwarte bei Munchen. XII. Band	The Royal Observatory of Munich.
	Der Magnetiske declination i Christiania udledet af Observationer. 1842–'62. H. Mohn	H. Mohn.
	Die Regenverhaltnisse des Konigreichs Hanover. Von Dr. M. A. F. Prestel	Dr. Prestel.
19	Observatorio Magnetico y Meteorologico del Real Colegio de Belen. Resumen de las Observaciones de Junio, 1864, and Julio, 1864	Real Colegio de Balen.
20	Mittheilungen aus Justus Perthes' Geographischer Anstalt, &c. 1864. VII	Justus Perthes.
	Annuaire de la Societé Meteorologique de France. Tome XII. Bulletin des Seances. F. 1–13. 1864	La Societe Meteorologique de France.
	Uber das von Hern W. Lassell in Malta auf gestellte Spigelteleskop. Von O. Struve	The Observatory at Pulkova.
	Die Zeitbestimmung vermittelst des Tragbaren Durch-gangsinstruments im verticale des Polarsterns. W. Dollen	Same.
	On the Right Ascension of the Pole Star as determined from Observation. T. H. Safford.	The Observatory of Harvard College.
	Notices to Mariners. Nos. 44, 50, 51–56	Hydrographic Office, London.
Nov. 5	Results of the Meteorological Observations in the Colony of Victoria, 1859–'62, and Nautical Observations collected and discussed at the Flagstaff Observatory, Melbourne. 1858–'62	The Government of Victoria.
	Uber den vielfachen Schweif des grossen Cometen von 1744. Von A. Winnecke	The Observatory at Pulkova.
17	Notices to Mariners. Nos. 57–60	Hydrographic Office, London.
25	Resumé Meteorologique de l'Année 1862. Pour Genéve et le Grand St. Bernard. E. Plantamour	E. Plantamour.
	Resumé Meteorologique de l'Année 1863. Pour Genéve et le Grand St. Bernard. E. Plantamour	Same.
	Determination Telegraphique de la difference de Longitude entre les Observatoires de Genéve et de Neufchatel. Par E. Plantamour, A. Hirsch	The authors.
	A General Catalogue of Nebulæ and Clusters of Stars arranged in order of right ascension and reduced to the common epoch 1860.0. Sir J. F. W. Herschel	The author.

Date.	Publications.	From whom received.
Nov. 25	Mittheilungen aus Justus Perthes' Geographischer Anstalt. 1859. XI, XII. Do. 1864. VIII	Justus Perthes.
	Neunundvierzigster Jahresbericht der Naturforschenden Gesselschaft in Emden. 1863	Naturforschenden Gesellschaft in emden.
	Kleine Schriften der Naturforschenden Gesselschaft in Emden. No. XI	Same.
29	Notices to Mariners. Nos. 61, 62	Hydrographic Office, London.
Dec. 3	H. Wild. Bericht uber die Meteorologischen Arbeiten im Kanton Bern im Jahr 1861	Prof. H. Wild.
6	Bericht de Meteorol. Contralstation im Bern von Jahr 1862–'63	Same.
	Nederlandsch Meteorol. Jaarboek. 1863	L'Institut. Royal Meteorologique des Pays-Bas.
	Refractors Beobachtungen der K. Univ.-Sternwarte in Upsala. February, 1862, bis January, 1864	Royal Observatory. Upsaa.
	Ueber die deviationen des compasses welche dursch das Eisen eines Schiffes vernsfacht werden. Dr. F. Schaub	Hydrographischer Anstalt, Triest.
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